THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

FOR OFFICIAL USE ONLY

Report No: PAD4978

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT
IN THE AMOUNT OF US$325 MILLION

OF WHICH US$25 MILLION IS
FROM THE WINDOW FOR HOST COMMUNITIES AND REFUGEES

AND

A PROPOSED GRANT
IN THE AMOUNT OF SDR 19.5 MILLION
(US$25 MILLION EQUIVALENT)
FROM THE WINDOW FOR HOST COMMUNITIES AND REFUGEES

TO THE

REPUBLIC OF UGANDA

FOR A

UGANDA CLIMATE SMART AGRICULTURAL TRANSFORMATION PROJECT

November 30, 2022

Agriculture and Food Global Practice
Eastern and Southern Africa Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective October 31, 2022)

Currency Unit =	Uganda Shilling (UGX)
US$1 =	UGX 3,820
US$1=	SDR 0.78

FISCAL YEAR
July 1 – June 30

Regional Vice President:	Victoria Kwakwa
Country Director:	Keith E. Hansen
Regional Director:	Ayat Soliman
Practice Manager:	Shobha Shetty
Task Team Leaders:	Pushina Kunda Ng'andwe, Jeehye Kim, Joseph Oryokot

ABBREVIATIONS AND ACRONYMS

ACDP	Agricultural Cluster Development Project
AnGRC	Animal Genetic Resource Center
ATAAS	Agricultural Technology and Agribusiness Services
COVID 19	Corona Virus 2019
BoU	Bank of Uganda
CPA	Certified Public Accountant
CPF	Country Partnership Framework
CRG	Competitive Research Grant
CRRF	Comprehensive Refugee Response Framework
CSA	Climate Smart Agriculture
DA	Designated Account
DPIC	District Project Implementation Committee
DRDIP	Development Response to Displacement Impacts Project
E&S	Environmental and Social
EIRR	Economic Internal Rate of Return
ESCP	Environmental Social Commitment Plan
ESF	Environmental and Social Framework
ESHS	Environmental and Social Health and Safety
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EX-ACT	Ex-Ante Carbon-balance Tool
FAO	Food and Agriculture Organization (of the United Nations)
FLW	Food Loss and Waste
FM	Financial Management
FMA	Financial Management Assistant
FMIS	Financial Management Information System
FMS	Financial Management Specialist
GBV	Gender-Based Violence
GCRF	Global Crisis Response Framework
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoU	Government of Uganda
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
IFMIS	Integrated Financial Management Information System
IFMS	Integrated Financial Management System
IFR	Interim Financial Report
IPF	Investment Project Financing
JLIRP	Jobs and Livelihoods Integrated Response Plan for Refugees and Host Communities

LIPW	Labor-Intensive Public Works
M&E	Monitoring and Evaluation
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MIS	Management Information System
MoFPED	Ministry of Finance, Planning and Economic Development
MTIC	Ministry of Trade, Industry and Cooperatives
NAGRC&DB	National Animal Genetic Resources Center and Data Bank
NARO	National Agricultural Research Organization
NARS	National Agricultural Research System
NDP	National Development Plan
NPCU	National Project Coordination Unit
NPSC	National Project Steering Committee
NPV	Net Present Value
NTAC	National Technical Advisory Committee
OPM	Office of the Prime Minister
PARI	Public Agricultural Research Institute
PCU	Project Coordination Unit
PDO	Project Development Objective
PDU	Procurement and Disposal Unit
PFM	Public Financial Management
PIM	Project Implementation Manual
PO	Producer Organization
PP	Procurement Plan
PPDA	Procurement and Disposal of Public Assets
PPSD	Project Procurement Strategy for Development
PS	Permanent Secretary
RF	Results Framework
RHD	Refugee-Hosting District
SEP	Stakeholder Engagement Plan
SLM	Sustainable Land Management
SPD	Standard Procurement Document
STEP	Systematic Tracking of Exchanges in Procurement
TF	Trust Fund
TIMPs	Technologies, Innovations, and Management Practices
ToR	Terms of Reference
UBoS	Uganda Bureau of Statistics
UCSATP	Uganda Climate Smart Agricultural Transformation Project
UMSFNP	Uganda Multi Sectoral Food and Nutrition Project
UNHCR	United Nations High Commissioner for Refugees
UNHS	Uganda National Household Survey
UNMA	Uganda National Meteorological Authority

WHR	Window for Host Communities and Refugees
ZARDI	Zonal Agricultural Research Development Institute
ZTC	Zonal Technical Committee

TABLE OF CONTENTS

DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Uganda	Uganda Climate Smart Agricultural Transformation Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P173296	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
21-Dec-2022	31-Dec-2028

Bank/IFC Collaboration

No

Proposed Development Objective(s)

To increase productivity, market access and resilience of select value chains in the project area and to respond promptly and effectively to an eligible crisis or emergency.

Components

Component Name	Cost (US$, millions)

Strengthening Climate-Smart Agricultural Research, Seed and Agro-Climatic Information Systems	66.90
Promoting Adoption of Climate Smart Agriculture Technologies and Practices	204.50
Market Development and Linkages for Selected Value Chains	57.30
Contingent Emergency Response Component	0.00
Project Management, Coordination and Implementation	21.30

Organizations

Borrower:	The Republic of Uganda
Implementing Agency:	Ministry of Agriculture Animal Industry and Fisheries

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	354.70
Total Financing	354.70
of which IBRD/IDA	350.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	350.00
IDA Credit	325.00
IDA Grant	25.00

Non-World Bank Group Financing

Counterpart Funding	4.70
Borrower/Recipient	4.70

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount

Uganda	325.00	25.00	0.00	0.00	350.00
National Performance-Based Allocations (PBA)	300.00	0.00	0.00	0.00	300.00
Window for Host Communities and Refugees (WHR)	25.00	25.00	0.00	0.00	50.00
Total	**325.00**	**25.00**	**0.00**	**0.00**	**350.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2023	2024	2025	2026	2027	2028	2029
Annual	30.00	60.00	75.00	85.00	60.00	40.00	0.00
Cumulative	30.00	90.00	165.00	250.00	310.00	350.00	350.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

Environment, Natural Resources & the Blue Economy, Social Protection & Jobs

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial

8. Stakeholders	Moderate
9. Other	Moderate
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description
The Recipient has established the Grievance Redress Mechanism within two (2) months of the Effective Date with the mandate, composition, terms of references and resources satisfactory to the Association in accordance with the provisions of Section (IV).1 of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall, within three (3) months of the Effective Date, prepare, consult on, update, adopt, and disclose the Stakeholder Engagement Plan for the Project, in form and substance satisfactory to the Association in accordance with the provisions of Section (IV).2 of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall, within three (3) months of the Effective Date, prepare, consult on, adopt and disclose the Vulnerable and Marginalized Groups Plan for the Project, in form and substance satisfactory to the Association in accordance with the provisions of Section (IV).3 of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall no later than three (3) months after the Effective Date, establish and thereafter, maintain throughout the Project, the NPSC with the mandate, composition, terms of references and resources satisfactory to the Association in accordance with the provisions of Section I.A.2(a)(i) of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall no later than three (3) months after the Effective Date, establish and thereafter, maintain throughout the Project, the NTAC with the mandate, composition, terms of references and resources satisfactory to the Association in accordance with the provisions of Section I.A.2(b)(i) of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall no later than one (1) month after the Effective Date, establish and thereafter maintain during the period of Project implementation the ZTC with the mandate, composition, terms of references and resources satisfactory to the Association in accordance with Section I.A.3(a) of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall no later than one (1) month after the Effective Date, and thereafter maintain during the period of Project implementation, the DPIC with the mandate, composition, terms of references and resources satisfactory to the Association in accordance with Section I.A.4(a)(i) of Schedule 2 to the Financing Agreement.

Sections and Description
The Recipient shall no later than one (1) month after the Effective Date, establish and thereafter maintain throughout the Project implementation the STPC with the mandate, composition, terms of references and resources satisfactory to the Association in accordance with Section I.A.5(a)(i) of Schedule 2 to the Financing

Agreement

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	(a) the Association is satisfied that the Recipient has an adequate refugee protection framework.
Effectiveness	IBRD/IDA	(b) the Project Implementation Manual has been prepared and adopted by the Recipient in form and substance acceptable to the Association.
Effectiveness	IBRD/IDA	(c) The Recipient has established the National Project Coordination Unit with the mandate, composition, terms of references and resources satisfactory to the Association
Disbursement	IBRD/IDA	No withdrawal shall be made for: (b) for Competitive Research Grants under Category (2) unless and until the Recipient has prepared and adopted the Grants Manual in form and substance acceptable to the Association.
Disbursement	IBRD/IDA	No withdrawal shall be made for: (c) for Matching Grants, Production Input Grants and Nutrition Grants under Category (3) unless and until the Recipient has prepared and adopted the Grants Manual in form and substance acceptable to the Association.

STRATEGIC CONTEXT

A. Country Context

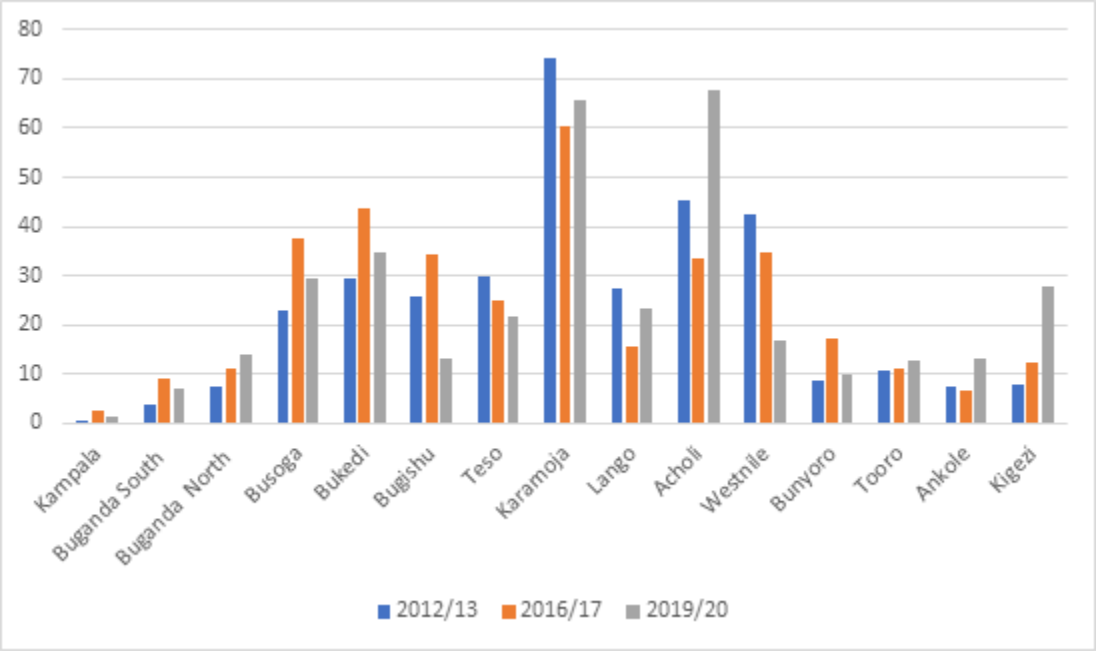
1. **Uganda's gross domestic product (GDP) growth has been declining and poverty has been increasing.** GDP growth averaged close to 8 percent per year the decade before 2012 but has since slowed to around 5 percent and is further projected to decline partly because of the Corona Virus Disease 2019 (COVID-19) crisis. The latest poverty data show that poverty has moderately increased since 2012/13. According to the Uganda National Household Survey (UNHS), between 2012 and 2016, Uganda's poverty rate declined to 21.4 percent, that resulted in around 1.4 million Ugandans slipping into poverty. A sizable portion of Uganda's population remains vulnerable to poverty and significant welfare setbacks in the wake of a shock. About 44 percent are considered vulnerable and susceptible to falling into poverty because of climate and other shocks. While 8.4 percent of households moved out of poverty in 2021, 10.2 percent slipped into poverty in response to shocks. [1]

2. **Low agricultural productivity is a major driver of poverty and is exacerbated by climate shocks.**[2] Severe climate shock and rapid natural resource degradation affected the productivity and income of agricultural households and reduced valuable goods and services like wood and hydro energy, construction materials, and ecosystem services derived from natural capital. Between 1990 to 2015, Uganda's forest cover loss accounted for an economic loss worth US$1.2 billion. Wetland degradation accounted for an average of US$1.5 million of the value of wetlands, and soil nutrient loss from erosion was US$625 million per year. Poverty has mainly been linked to massive natural resource degradation through unsustainable exploitation. The reduction in agricultural productivity is worsening poverty especially among agriculture-dependent people and in areas where the degradation of land is the highest with limited interventions. As Figure 1 shows, areas of Busoga, Bukedi, and Kigezi continued to experience extreme and increasing poverty levels largely attributed to land and natural resource degradation. There have been limited or inadequate interventions in natural resource management and adaptation to the impacts of climate change in these regions. While poverty levels in Karamoja, West Nile, and the North remain high, they are declining due to investments in poverty reduction, natural resource management, and climate change adaptation. Without adequate action, social and economic losses are expected to be more pronounced in the marginalized regions of the country where the declining resilience of rural households would have devastating impacts on agricultural productivity, food security, incomes, and poverty reduction.

[1] Uganda National Household Survey (2016/17)

[2] Between 2012/13 and 2016/17 there was drought, crop and livestock pest and disease outbreaks, floods, and storms that resulted in sharp changes in prices. These events were more prevalent among the rural areas except for sharp changes in prices of commodities that were highly ranked in the urban areas. The prevalence of drought was almost universal except in the subregions of Elgon and Kigezi. Sharp changes in prices were most common in the subregions of Lango, Central II, and Karamoja. Bukedi subregion was the most hit by crop pests and diseases followed by Lango, while Karamoja was the most affected by livestock diseases (100 percent). Teso subregion was affected by storms and floods.

Figure 1. Uganda's Poverty Estimates by Region



3. **As the largest refugee-hosting country in Africa, Uganda has seen a significant increase in refugees since 2016, which has been adversely affected by COVID-19 impacts.** By the end of July 2022, the country hosted 1.53 million refugees and asylum seekers from various countries (South Sudan, the Democratic Republic of Congo, Somalia, Burundi, Rwanda, Eritrea, Sudan, Ethiopia, and 23 other countries),[3] representing 3.3 percent of Uganda's total population. About 94 percent of refugees live in settlements across 12 refugee-hosting districts (RHDs) while the remainder live among communities predominantly in urban areas. The refugee presence has added to existing pressures on the environment leading to an increase in the rate of degradation and tree loss and accelerated land cover changes in bushland and woodlands. An assessment[4] has shown that the inflow of refugees in northwestern Uganda has exacerbated a range of ongoing environmental impacts and associated challenges including land degradation and woodland loss leading to inadequate access to energy for cooking and increased competition with local people for wood fuel and other natural resources.

B. Sectoral and Institutional Context

4. **Agriculture accounts for approximately 22 percent of Uganda's GDP, 46 percent of its export earnings, and 60 percent of the labor force. Despite its important role, the agriculture sector performs far below its potential, exacerbated by increasing climate variability as well as extreme weather events.** Uganda's national agricultural output has grown at only 2 percent per year over a five-year period compared to about 3–5 percent output growth in other East African Community members over the same period.[5] Low rates of commercialization and inadequate capacity to invest in adapting to climate related

[3] OPM (Office of the Prime Minister) and UNHCR (United Nations High Commissioner for Refugees). 2022. *Uganda Comprehensive Refugee Response Portal*. https://data2.unhcr.org/en/country/uga.
[4] World Bank and FAO (Food and Agriculture Organization of the United Nations). 2019. *Rapid Assessment of Natural Resources Degradation in Areas Impacted by the South Sudan Refugee Influx in Northern Uganda*. Washington, DC: World Bank.
[5] Uganda National Household Survey (2016/17)

hazards are ongoing threats to productivity enhancement. Soil degradation and erosion, caused by unsustainable land management, have further reduced agricultural productivity and increased vulnerability. In recent years, the lack of resilience has resulted in huge losses in livestock and crops. For instance, due to the 2010/11 drought, Uganda lost US$470 million in food crops, cash crops, and livestock—the equivalent of approximately 16 percent of the total annual value of crops.[6] Climate induced drought and flood in Uganda is shrinking Uganda's lakes and fish population due to increasing temperatures and sedimentation/siltation from erosion caused by changes in land use and land cover. Poor agronomic practices in the catchment areas and siltation have affected the quality and quantity of waterbodies such as lake Kyoga, which has continued to decline.[7] This has greatly affected capture fisheries considered to be indispensable to meeting the fish supply deficit and to driving economic and social growth while serving as an adaptation strategy to climate change impacts. It is estimated that by 2025, the economic cost of climate change to agriculture will be in the range of US$2.3–4.2 billion per annum[8], due to crop damage, loss of export crop revenue, loss of livestock, and unmet water demand for plant and livestock production. By 2050, the productivity of key staples like cassava, potato, and sweet potato could decline by 40 percent.[9] Yields of cash crops such as Arabica coffee are also projected to decline by 50–75 percent in the coming decades as land becomes unsuitable for its production.[10] Yields for crops like coffee and tea could reduce drastically, leading to combined economic losses of about US$1.4 billion (per year) in the 2050s. The impact of climate change on livestock production via drought, water availability, floods, and diseases is quite small—estimated at 2 percent.[11] However, livestock production, which contributes about 15 percent of agricultural GDP, contributes the most (19 percent) to the agricultural greenhouse gas (GHG) emissions in Uganda, thus necessitating investments in climate smart livestock practices.[12] Due to reduced soil fertility and moisture stress, crop and livestock yields in Uganda have remained low, registering only about 30 percent of biological potential.

5. **The low resilience of rural households in Uganda to climatic and other shocks emanates primarily from the absence of infrastructure, weak linkages to market opportunities, inadequate financial resources, and low investment in climate smart agriculture (CSA) technologies and improved practices.** Households' inability to anticipate or recover from shocks that affect agriculture and food security on time underscores their high vulnerability to potentially longer-lasting impacts on the economy. Farming households typically work at a subsistence level with inadequate financial resources, access to markets and infrastructure, information, and knowledge, which create disincentives to adopt and sustain more productive approaches and further expose them to climate and market-related risks. Even though a range of CSA technologies including sustainable land management (SLM) have been promoted and

[6] OPM (2012) Uganda: The 2010-2011 Integrated Rainfall Variability Impacts, Needs Assessment and Drought Risk Management Strategy
[7] Brown, E., and J. Sutcliffe. 2013. "The Water Balance of Lake Kyoga, Uganda." *Hydrological Sciences Journal* 58 (2).
[8] MoWE (2015) Economic Assessment of the Impacts of Climate Change in Uganda.
[9] Ministry of Water and Environment Climate Change Department, "Economic Assessment of the Impacts of Climate Change in Uganda—National Level Assessment: Agricultural Sector Report." March 2015. https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf.
[10] CIAT (International Center for Tropical Agriculture) and BFS/USAID (Bureau for Food Security, United States Agency for International Development). 2017. "Climate-Smart Agriculture in Uganda." CSA Country Profiles for Africa Series. CIAT and BFS/USAID, Washington, DC. https://climateknowledgeportal.worldbank.org/sites/default/files/2019-06/UGANDA_CSA_Profile.pdf.
[11] Ministry of Water and Environment Climate Change Department, "Economic Assessment of the Impacts of Climate Change in Uganda—National Level Assessment: Agricultural Sector Report." March 2015. https://cdkn.org/wp-content/uploads/2015/12/Uganda_Agricultural_Sector.pdf.
[12] Ibid.

implemented across farmer typologies and agroecological zones in Uganda, the rate of adoption is less than 30 percent. The low level of adoption of CSA and SLM practices is attributed to; (a) the limited direct commercial value of these practices, (b) high initial costs of adoption of the CSA technologies and establishment of necessary structures to undertake SLM practices, (c) misalignment and absence of incentive mechanisms that influence smallholder farmers' ability to address immediate or short-term climatic risks, and (d) limited investments in technology and mechanization. More broadly, poor policy harmonization, weak or absent institutional arrangements, inadequate land use plans, limited support to local governments, weak farmer groups, a poor mindset of the farmers and institutions, and limited investments in CSA-friendly value chains are factors that have all contributed to increased vulnerability to climatic shocks.

6. **Refugees have good access to agricultural lands and rural livelihoods in Uganda but due to global pressures, households in RHDs have been vulnerable to rising poverty rates, food insecurity, and mental health challenges.** For refugees, reduced humanitarian assistance and fewer food rations coupled with the lockdowns and economic recession have further reduced their incomes and increased their vulnerability—exacerbated by COVID-19 pressures and the Ukraine crisis. Like host communities, refugees have been adversely affected by COVID-19 shocks, coupled with high levels of food insecurity and aid dependency on limited food rations.[13] RHDs face challenges in the productivity of the land. There are limited soil conservation interventions in refugee settlements. Settlements are located in refugee hosting districts which often have less-productive agricultural land. Extension services are limited in settlements, and interventions are fragmented across different funding partners making it difficult to ensure sustainable use of natural resources for restoration, preservation of the environment, and improvement in agricultural productivity. Informal arrangements for sharecropping and refugees working on host community land provide vulnerability and protection challenges, as does the contestation of some land around refugee settlements. This has implications for social cohesion between refugee and host communities.

7. **To address poverty and reverse the impacts of land degradation and promote the adoption and scale-up of appropriate land management practices and climate smart technologies for sustained productivity and poverty reduction, the Government of Uganda (GoU) would need to:**

(a) Invest in strengthening institutions at varying levels—communities and local governments—to promote economies of scale and mindset change among policy makers and communities regarding the benefits of promoting climate smart technologies, innovations, and management practices (TIMPs) and to enhance community resilience to climatic shocks.

(b) Invest in climate smart technology generation and adaptation to facilitate and enhance farmers' adoption of TIMPs, climate smart technologies and SLM practices.

(c) Address market access and infrastructure challenges to incentivize increased investments into climate smart TIMPs and enable a shift from subsistence farming to commercial oriented production.

[13] World Bank. 2021. *Monitoring Social and Economic Impacts of COVID-19 on Refugees in Uganda: Results from the High-Frequency Phone Survey - Third Round*. Washington, DC: World Bank.

(d) Include customized interventions that address the unique characteristics of refugee and host community districts to promote sustainable use of natural resources and manage social cohesion between refugee and host communities.

(e) Invest in early warning systems, surveillance, and forecasting by establishing and strengthening the institutional architecture that can effectively respond and adjust in real time.

C. Relevance to Higher Level Objectives

8. **This project supports the World Bank's twin goals end extreme poverty and boosting shared prosperity.** The Project is aligned with the World Bank Group's Country Partnership Framework (CPF) FY16–21 (Report No. 101173-UG) discussed by the Board of Executive Directors on April 21, 2016, and with the Performance and Learning Review of the CPF (Report No. 157534-UG). The Performance and Learning Review extended the CPF to FY22. The project is aligned with the four key strategic focus areas and objectives of the CPF: (a) improving social service delivery, (b) raising incomes in rural areas, (c) enhancing the resilience of the poor and vulnerable, and (d) increasing agricultural commercialization. The project supports objective (a) by strengthening institutions and promoting an ecosystem that enables more efficient facilitation and access to improved management practices and CSA technologies; objectives (b) and (d) by promoting value addition and agro-processing of alternative commodities for smallholder farmers to realize higher incomes through enhanced market access and share of increased value added from improved quality; and objective (c) by enhancing adoption of CSA technologies and SLM practices and institutional strengthening of early warning systems to effectively respond and adjust to shocks in real time. The project is further aligned with the Climate Change Action Plan (2021-2025), which considers the importance of natural capital, biodiversity and ecosystem services and aims to increase support for nature based solutions given the importance for both mitigation and adaptation.

9. **The project is aligned with the three programs of the GoU's Third National Development Plan (NDP III)** including the Regional Development Program that aims to accelerate equitable regional economic growth and development and the Climate Change, Natural Resources, Environment and Water Management Program that aims to stop and reverse the degradation of water resources, environment, and natural resources and effects of climate change on economic growth and livelihood security. The project is also aligned with the Agro-industrialization Program whose goal is to increase the commercialization and competitiveness of agricultural production and agro-processing.

10. **The World Bank, following consultation with the United Nations High Commissioner for Refugees (UNHCR),[14] has determined that Uganda's refugee protection framework remains adequate for accessing financing from the IDA20 Window for Host Communities and Refugees (WHR).** Uganda is recognized globally as having one of the refugee policies most aligned with the Global Compact on Refugees. It is a state party to international and regional instruments protecting refugees. Its laws, policies, and practices are consistent with international refugee law, guaranteeing non-refoulment and adequate protection for refugees and asylum seekers. Uganda has ratified the 1951 Refugee Convention and the 1967 Protocol Relating to the Status of Refugees and nine international and regional human rights instruments relevant to refugee protection. These are domesticated into Uganda's legal system through

[14] Based on the Uganda Refugee Protection Assessment Update August 4-22, 2022.

the 2006 Refugee Act and its 2010 Refugee Regulations as well as other laws which accord protection, including the Bill of Rights in the 1995 Constitution.

11. **Uganda has remained committed to its refugee policy reforms despite global pressures on humanitarian funding, and this project will demonstrate substantial policy content in supporting implementation of the Jobs and Livelihoods Integrated Response Plan for Refugees and Host Communities (JLIRP).** Under JLIRP pillar 3—Increasing agricultural productivity, production, and marketable volumes—are priority strategic interventions that the project will directly address including (a) improving access to agricultural extension services, (b) increasing agricultural production and productivity in RHDs, and (c) increasing access to improve agricultural technologies and practices in RHDs. Uganda is also implementing the Comprehensive Refugee Response Framework (CRRF) in accordance with the Global Compact on Refugees. Uganda's refugee response supports refugees and host communities by bridging humanitarian and development ways of working providing pathways to self-reliance. Since initial eligibility to WHR resources, Uganda has been implementing Refugee and Host Community Sector Response Plans for education, health, water and environment, sustainable energy, and jobs and livelihoods. The World Bank has supported the implementation of these plans with the approval of US$791 million of WHR resources in IDA18 and IDA19. The World Bank is supporting Uganda's implementation of its policy reforms through several projects reducing pressure on social services, infrastructure, and natural resources across refugees and host communities. Uganda has reiterated its ongoing policy commitments to refugee protection and economic integration in Uganda's IDA20 Strategy Note (Annex 3) on Support to Refugees and Host Communities.

12. **The project is aligned with the World Bank Group's Global Crisis Response Framework (GCRF).** The project components will contribute to Pillar 1 - *Responding to Food Insecurity* by supporting agricultural production, productivity enhancement, and marketing; Pillar 2 - *Protecting People and Preserving Jobs* by directly supporting refugees to engage in productivity-enhancing agricultural practices; Pillar 3 - *Strengthening Resilience* by investing in institutional, digital, and organizational systems for long-term sustainability; and Pillar 4 - *Strengthening Policies, Institutions, and Investments for Rebuilding Better* by building capacities of the public sector and service deliveries.

13. Gender design considerations for the project have focused on addressing two of the four pillars of the Word Bank Group Gender Strategy (FY16-23), namely ownership and control of assets and women's voice and agency.

I. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

14. To increase productivity, market access and resilience of select-value chains[15] in the project area and to respond promptly and effectively to an eligible crisis or emergency.

PDO Level Indicators

15. The outcome indicators to measure achievement of the Project Development Objective (PDO) are as follows:

(a) Project beneficiaries (Numbers), disaggregated by nationals, gender, host communities and refugees.

(b) Land area under sustainable land management including climate smart practices because of project support (Hectares), disaggregated by nationals, host communities and refugees.

(c) Percentage increase in yields of selected value chains in metric tons per production unit, disaggregated by commodity/value chain.

(d) Percentage increase in volumes of agricultural products of selected value chains marketed by targeted beneficiaries, disaggregated by nationals, gender, host communities and refugees.

B. Project Components

16. The project consists of five components: (a) Strengthening Climate Smart Agricultural Research, Seed, and Agro-Climatic Information Systems; (b) Promoting Adoption of Climate Smart Agriculture Technologies and Practices; (c) Market Development and Linkages to Selected Value Chains; (d) Contingency Emergency Response Component; and (e) Project Management, Coordination, and Implementation. Details of component interventions will be outlined in the Project Implementation Manual (PIM).

Component 1. Strengthening Climate Smart Agricultural Research, Seed, and Agro-Climatic Information Systems (US$66.9 million, of which US$64.6 million - IDA; US$2.3 million - WHR)

17. This component will support the development, validation, packaging, and dissemination of context-specific CSA TIMPs to target beneficiaries. It will facilitate investments in climate resilient seed

[15] For the project, 13 value chains have been selected and up to 4 value chains will be supported in each subregion. The value chains have been selected based on the following criteria: (a) potential to earn income for farmers and create employment; (b) potential to support food security and nutrition; (c) environmentally adaptable to the region; (d) potential for scalability; (e) marketability—availability of market off-takers, aggregators, and processors; (f) promoted by at least two-thirds of the district in the subregion; and (g) among commodities promoted by the Parish Development Model. Other considerations included being socially acceptable by farmers—by gender and inclusiveness of vulnerable groups—and potential to use as feedstock for value addition/ability to support other enterprises.

production and marketing systems. It will enhance climate risk management through improved prediction of, response to, and planning for climate change at the national, local, and community levels. The component will also strengthen technical and institutional capacity to deliver technologies, support the development of the seed delivery systems, and provide agro-meteorological information services. Component 1 activities address issues across Pillar 3 and Pillar 4 of the GCRF through strengthening institutional, digital, and research systems that identify and support paths to build long-term resilience against climate risks. Subcomponent 1.3 will invest in producing and implementing a wide range of diagnostic tools, analyses, and advisories. These will contribute to the systematic prevention and preparedness under Pillar 3 of the GCRF.

Subcomponent 1.1. Supporting Climate Smart Agricultural Research and Innovations (US$9.8 million - IDA)

18. This subcomponent will finance the development, validation, adaptation, and dissemination of context-specific CSA TIMPs through demand-driven collaborative adaptive research programs and technology incubation approaches. Under the subcomponent, the National Agricultural Research Organization (NARO) will administer and manage a Competitive Research Grant (CRG) scheme to finance adaptive and applied research activities for development of demanded CSA TIMPs based on current and emerging technology needs including the needs of RHDs. Financing will be provided through two critical windows: Window 1, to support adaptation of generic technologies to various agro-ecologies and needs and Window 2, to support research addressing emerging climate change challenges for which technologies may not be readily available for uptake and adaptation, including climate change and likely changes in suitability areas for various technologies. Financed research will be conducted through partnerships with stakeholders in the National Agricultural Research System (NARS).[16]

Subcomponent 1.2. Building Competitive and Sustainable Seed Systems (US$12.9 million - IDA; US$1 million - WHR)

19. This subcomponent will strengthen agricultural productivity through multiplication of planting and stocking materials that are climate smart through the NARS. Financing will be for: (i) supporting farmers and farmer organizations in project districts including RHDs and refugee settlements that express a business interest in multiplying climate resilient planting, livestock, and aquaculture seed/stocking materials as an enterprise; (ii) establishing out-grower schemes in the community and directly contracting with private sector multipliers in the production and distribution of quality climate smart commercial seed through a matching grant scheme.[17] Multiplication will be primarily geared toward selection for climate smartness of varieties, breeds, and fingerlings to ensure resilience to climate hazards and reduce contributions to GHG emissions, especially for livestock; (iii) supporting farmer organizations to acquire and use infrastructure, equipment, technology, and gain technical skills for strengthening seeds, breeds, and fingerling production systems, including strengthening artificial insemination services; and (iv) specification and quality assurance of seeds and stocking materials undertaken by the relevant Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) departments and agencies. Some of the key investments include: establishment of well-equipped sub-county Artificial Intelligence centers;

[16] NARS is a cross-section of stakeholders whether in the public or private sector and comprises organizations, public agricultural research institutes (PARIs), universities and tertiary institutions, farmer groups, civil society organizations, and private sector entities engaged in the provision of agricultural research services.

[17] Farmer Organizations will be organized into groups and trained on savings and credit. They will be able to leverage their savings to access funds from the project through a matching grant. The project will develop a Grants Manual that will describe the criteria and modalities of fund access.

procurement of machinery; installation of irrigation systems for post control evaluation; seed inspection, verification and certification; and procurement and deployment of seed traceability systems.

Subcomponent 1.3. Strengthening Agro-Climate Monitoring and Information Systems (US$10.6 million - IDA)

20. The subcomponent will finance the generation and timely transmission of accurate weather data and climate information thereby strengthening weather forecasting and its dissemination tools. Financing will be for:(a) acquisition and establishment of functional automated weather stations and related equipment in locations where gaps have been identified to improve agro-meteorological forecasting and monitoring; (b) rehabilitation and upgrading of existing weather stations in project areas; (c) acquisition and utilization of big data to develop a climate smart, agro-weather information system and advisories; (d) establishing partnerships with local and international institutions to support the generation of climate information using global data sources such as satellites; (e) upgrading and operationalizing the weather information dissemination system; (f) building the technical capacity of MAAIF and extension staff for agro-meteorological observation and forecasting and real-time delivery of weather information and advisories to target farmers in project districts including RHDs and refugee settlements; (g) development of agroclimatic and climate smart digital tools to facilitate access to early warning, agroclimatic, and pest and disease surveillance information; (h) establishment of soil organic carbon monitoring reporting and verification of GHG removals including lab analysis for tracking application, adoption, and impact of TIMPs; and (i) facilitating partnership with Uganda National Meteorological Authority (UNMA) to build capacity of MAAIF and local governments in agro-met data collection, management, analysis and dissemination; and (j) enhancement of UNMA's capacity in agro-met data collection, management, analysis and dissemination.

Subcomponent 1.4. Strengthening Institutional Capacity for Development and Dissemination of CSA TIMPs of PARIs and the Animal Genetic Resource Centers (US$31.3 million - IDA; US$1.3 million - WHR)

21. This subcomponent will support strengthening of the technical and institutional capacity of MAAIF, the Public Agricultural Research Institutes (PARIs), and the Animal Genetic Resources Centers (AnGRCs) to deliver CSA TIMPs and support the development of sustainable climate smart seed delivery systems to all the project districts including RHDs and refugee settlements. Energy efficiency and climate resilient design standards for proposed equipment and infrastructure investments will be supported under this sub-component.

Subcomponent 1.4 (a). Institutional and Capacity strengthening for MAAIF and AnGRCs under NAGRCDB (US$17.5 million - IDA; US$1.3 million - WHR)

22. Under technical capacity and institutional strengthening, the subcomponent will finance (a) training of district extension staff and farmer producer organizations (POs); (b) training of district CSA subject matter specialists to strengthen research-extension linkage; (c) support the certification and production of seeds, breeds and fingerlings to ensure seed quality including provision of machinery, laboratory, and irrigation equipment for seed testing and evaluation; (d) refurbishment of infrastructure for technology multiplication of AnGRCs (Rubona, Serere and Maruzi); (e) rehabilitation and equipping of laboratories, bull pens, and bull stud (National Animal Genetic Resources Center and Data Bank (NAGRC&DB)) National Center); (f) provision of mobile artificial reproductive technology laboratories and equipment; (g) establishment of artificial technology satellite centers; (h) establishment and

operationalization of regional and district veterinary laboratories; (i) revamping of National Animal Quarantine and Evaluation Center; (j) acquisition of tractors and associated implements including specialized ground transport for AnGRCs; and (k) refurbishment of aquaculture fish disease diagnostic laboratory.

Subcomponent 1.4 (b). Institutional and Capacity Strengthening for PARIs under NARO (US$13.8 million - IDA)

23. Under technical capacity and institutional strengthening, the subcomponent will finance (a) short-term training and re-tooling of staff (mainly from Zonal Agricultural Research Development Institutes (ZARDIs)) in CSA research; (b) training of MSc and PhD scientists to build critical capacity for CSA research; (c) provision and refurbishment of aquaculture brood stock hatcheries, indoor hatcheries, cage culture facilities, and feed facilities for formulation of feed at NARO facility; (d) development and refurbishment for technology multiplication of AnGRC (Serere); (e) procurement of research breeding bulls at NARO; (f) establishment of fish feed mill for fish feed production; (g) establishment/rehabilitation/expansion of mother gardens at PARIs; (h) expansion and maintenance of irrigation facilities at PARIs; (i) breeding programs for production of sorghum breeder seed; and (j) acquisition of tractors, farm machinery, and specialized ground transport for PARIs.

Component 2. Promoting Adoption of Climate Smart Agriculture Technologies and Practices (US$204.5 million, of which US$172 million - IDA; US$32.5 million - WHR)

24. The component will support investments for upscaling and adoption of CSA TIMPs. These include SLM practices for improved resilience, GHG mitigation, agricultural productivity, and incomes in project areas. Component 2 activities fit within GCRF Pillars 1, 2, and 4. Subcomponent 2.1 supports agricultural production and productivity enhancement and thereby contributes to improved food and nutrition security (Pillar 1). Through directly supporting refugees, subcomponent 2 contributes to Pillar 2. Pillar 4 objectives will be met through strengthening public institutions, service delivery, and coordination among different actors for increased efficiency and enhanced preparedness and adaptive measures.

Subcomponent 2.1. Productivity Enhancement and Resilience Investments for income generation (US$158 million - IDA; US20 million - WHR)

25. The subcomponent will finance CSA investments in micro-projects and subprojects to help beneficiaries achieve the triple wins of increased productivity, enhanced resilience and reduced GHG emissions. Financing will cover project districts including RHDs and refugee settlements. It will also provide incentives at the district level to promote the adoption of climate smart SLM technologies and practices on both communally and privately owned lands. All promoted SLM practices will be applied to the selected value chains to promote sustainable productivity increases. Financing will be for: (i) matching grants for community-level investments to finance micro-projects and district-level investments to finance strategic larger subprojects that benefit several sub-counties and communities; (ii) incentive payments through Labor Intensive Public Works (LIPW) for communities to participate in the implementation of SLM practices[18] on communally owned land (iii) SLM incentive payments to farmers -

[18] Communities will participate in the construction of recommended soil and water conservation structures such as terraces, contour bunds, and water retention ditches; restoration of degraded wetlands, riverbanks, lakeshores and stabilization works to

whose private lands constitute a large part of the watershed - that construct and adopt recommended SLM practices for a holistic and integrated watershed management approach; (iv) provision of mechanization and irrigation services to enhance commercial production for target beneficiaries; (v) provision of extension services through the public extension system; and (vi) contracting of service providers defined in the National Agricultural Extension Strategy for services where competency gaps are identified in the public extension system.

Subcomponent 2.2. Productivity enhancement and resilience for food and nutrition security in refugee settlements (US$5 million - WHR)

26. The subcomponent will support refugee settlements and hosting communities to access TIMPs for their selected crops, livestock, and aquaculture including soil and water management and agroforestry. Selected commodities will primarily focus on addressing food and nutrition requirements for refugee settlements and building resilience to climate hazards, given the critical challenges of food shortages and reduced funding to refugee settlements and their vulnerabilities to shocks. Financing will be for; (i) nutrition grants to farmer groups' micro-projects to source foundation climate resilient technologies for multiplication and demonstrations; (ii) scaling up existing food systems-based approaches for dietary diversity such as mainstreaming backyard/kitchen gardens for production of micro-nutrient dense foods; (iii) service contracts to partner organizations [19] that support nutrition education to refugees and host communities with particular emphasis on children, pregnant women, and lactating mothers to provide nutrition education training in refugee settlements; (iv) grants to organized refugee farmer groups to access quality climate smart production inputs, micro-irrigation kits and mechanization services; and (v) capacity building for refugee farmer groups to manage savings and revolving fund schemes and where possible, facilitate access to financial services.

Subcomponent 2.3. Building institutional capacity for productivity enhancement and resilience and strengthening service delivery (US$14 million - IDA; US$7.5 million - WHR)

27. This subcomponent will build institutional capacity at the district, subcounty, parish, and community levels to plan, implement, manage, and monitor local government subprojects and community micro-projects in the project area. Financing will be for: (a) supporting districts and sub counties in CSA planning, prioritization of needs, mobilizing, organizing, and aggregating farmer groups into higher-level institutions (Producer Organizations (POs)); (b) supporting districts and sub counties to deliver CSA extension services and oversee implementation of subprojects; and (c) contracting service providers defined in the National Agricultural Extension Strategy to support community mobilization and strengthen farmer and community institutions in planning and implementation of micro-projects, management of savings and revolving fund schemes, capacity strengthening on likely climate risk and impacts as well as adaptation measures; (d) demand driven consultations to orient community mindsets towards climate change mitigation and adaptation for ecosystem protection and restoration and to manage technology uptake and promotion; and (e) facilitate the provision of information, knowledge, and advice through farmer field schools and lead farmers for last-mile service delivery.

reduce farmers' vulnerability to flooding, droughts and associated land degradation. The construction of these structures will mainly occur during the agricultural off-season to catalyze the promotion and adoption of appropriate SLM technologies. In refugee settlements, LIPW will focus on priority works identified through agricultural settlement land management plans.

[19] These are local NGOs and Civil Society that are working on nutrition and food security related activities in Refugee Hosting Districts

28. In refugee settlements and RHDs, institutional capacity building and strengthening will be based on existing institutions and/or their modifications to best suit the promotion of CSA TIMPs. Financing will support: (i) capacity building of common interest farmer groups in refugee settlements and in host communities for increased productivity and resilience, (ii) strengthening of relations between farmer institutions in refugee settlements and in host communities for efficient project implementation, (iii) strengthening of capacity of the RHDs and local governments in the provision of CSA extension services, (iv) recruitment of Community-Based Facilitators in refugee settlements and host communities to provide last-mile service delivery to beneficiaries, (v) development of agricultural settlement land management plans by MAAIF and OPM with input from UNHCR for each RHD which will assess appropriate refugee value chains in each settlement, and (vi) development of partnerships between refugees and host communities for land utilization to increase access to land for agricultural production. Some of the key outputs under this sub-component include building farmer group capacity for the value chains of: dairy; beef; apiculture; and agricultural crops. This includes establishing farmer field schools; procurement of specialized ground transport for field extension workers; procuring digital tools; mobilizing community-based facilitators in RHDs; developing and disseminating communication and education materials (including through information and communications technology); and skilling of youth.

Component 3: Market Development and Linkages for Selected Value Chains (US$57.3 million, of which US$44 million - IDA; US$13.3 million - WHR)

29. The objective of this component is to improve access to remunerative markets through increased access to climate smart harvesting, postharvest handling, storage, value addition, market linkage services, equipment, and infrastructure by higher-level institutions (Producer Organizations) established under subcomponent 2.3. The project will adopt a framework for climate smart infrastructure mainstreaming along the value chains. Promoting market linkages and rehabilitating market infrastructure will support producers in refugee and non-refugee communities to increase production and quality under component 3. Anticipated results of increased food supply, profitability, and viability of the agriculture and food system are closely linked to Pillar 1 of the GCRF.

Subcomponent 3.1. Investments in market development and linkages for selected value chains (US$44 million - IDA)

30. This sub-component will finance: (a) national technical assistance through existing pluralistic agriculture extension system and private sector providers[20] to strengthen the institutional capacity of POs for demand articulation, business planning, and market access; (b) Business development services[21]; (c) matching grants for clean energy equipment, machinery and infrastructure for harvesting (for example, solar dryers), postharvest management and value addition to minimize losses (for example, climate smart grain storage and solar-powered cold storage), improvement of quality and shelf life of produce (through sustainable packaging), and reduction of the overall contribution of agro value chains to sectoral GHG emissions; (d) Promotion of market linkages to enable generated production access remunerative markets; (e) market infrastructure and rehabilitation of specific bottlenecks and trouble spots on farm

[20] Private sector are defined as off-takers, inputs dealers, private extension service providers, machinery suppliers and financial institutions amongst others who engage in the sector for profit purposes.

[21] These business development services include: (i) Strengthening of the POs in governance and managerial and technical capacity; (ii) Technical skills in entrepreneurship and business plan development—capacity strengthening on the development of business plans and investments will include information on climate risk planning and mitigation; (iii) Financial literacy and linkage to the formal financial sector; and (iv) negotiation and partnership development and networking through productive alliances;

access road chokes[22] that constrain access to physical input and produce markets (designed to reduce the impact of flooding and high temperatures among other climate hazards).

Subcomponent 3.2. Investments in market development for selected value chains for farmers in refugee settlements and host communities (US$13.3 million - WHR)

31. Building on the selected host community value chains and agricultural settlement land management plans which will identify appropriate refugee value chains, the subcomponent will finance: (a) skills development for selected youth, district and sub-county local government extension staff to improve service delivery (b) matching grants for clean energy equipment, machinery, and infrastructure for harvesting and postharvest value addition to minimize losses and improve the quality and shelf life of produce. As applicable, energy efficiency considerations will be followed for proposed investments in selected value chains.

Component 4. Contingency Emergency Response Component (CERC) (US$0 million - IDA)

32. This zero-cost component will finance eligible expenditures under the Immediate Response Mechanism in case of natural or man-made crises or disasters such as severe droughts, floods, specific pests and disease outbreaks, and severe economic shocks in Uganda. For CERC to be activated, and financing to be provided, the Government will need: (a) to submit a request letter for CERC activation and the evidence required to determine the eligibility of the emergency as defined in the CERC Annex to the Project Implementation Manual (PIM); (b) an Emergency Action Plan, including the emergency expenditures to be financed; and (c) to meet the environmental and social requirements as agreed in the Environmental and Social Commitment Plan (ESCP) and CERC Annex. In such cases, uncommitted funds from other project components will be reallocated to finance the emergency response expenditures to meet agricultural crises and emergency needs. The emergency response would include mitigation, recovery, and reconstruction.

Component 5. Project Management, Coordination, and Implementation (US$21.3 million, of which US$19.4 million - IDA; US$1.9 million - WHR)

33. This component will support the management, monitoring, and evaluation of the project. It will strengthen the planning and coordination of activities supported by the project, as well as the monitoring of their implementation, financial management (FM) processes**,** program communication, and knowledge management. The component will finance the baseline, midline, and end-of-project evaluations; conduct specialized studies (quantitative, qualitative, and quality of implementation processes) on demand; and support development and operation of an information and communication technology-based agricultural information system. The component will also focus on strengthening the environment, social, safety and health risk management in the project and building the knowledge base of effective implementation for refugees and managing risks of social cohesion between refugees and host communities.

[22]The project will focus on addressing uncoded road chokes (choke points on farm access roads) and will not finance construction or rehabilitation of new and existing rural roads.

Subcomponent 5.1. Project management and coordination and implementation at the national, zonal, district, and subcounty levels (US$7.2 million - IDA, US$0.5 million - WHR)

34. The objective of this subcomponent is to ensure enhanced and effective project management, coordination, and implementation. Financing will be for: (i) effective coordination of project activities; (ii) coordination and management with structures at national, zonal, district, sub-county and parish levels; (iii) alignment with existing implementation structures in the RHDs and refugee settlements established through OPM; (iv) recruitment of key project support staff for project implementation support; and (v) supporting the Accountant General's office in recording, monitoring and reporting on the assets created along the project's lifecycle.

Subcomponent 5.2. Project monitoring, evaluation, and learning (US$9 million - IDA, US$1 million - WHR)

35. The subcomponent will support the design of the project's monitoring and evaluation (M&E) system. This sub-component will finance the: (i) design of a project management information system (MIS) for monitoring inputs, outputs, and processes; (ii) baseline, mid-line and end-line evaluation of outcome and impacts; (iii) Environment and Social (E&S) risks monitoring; and participatory M&E and internal learning; (iv) provision of timely and accurate information, education and communication messages in all project districts, including RHDs and refugee settlements.

Subcomponent 5.3. Strengthening the environment, social, health and safety (ESHS) risk management system of MAAIF (US$3.2 million - IDA; US$0.4 million - WHR)

36. This subcomponent is aimed at strengthening the capacity of MAAIF to effectively manage the ESHS risks in the project areas including RHDs and refugee settlements. The focus will be on building a system for coordinated ESHS risks and impacts management of the sector's investment activities and promote E&S sustainability in the project. Specifically, the sub-component will finance: (a) Building the technical capacity of MAAIF staff and project stakeholders on World Bank Environment and Social standards applicable to the project; (b) Conducting stakeholder engagements and preparing and implementing site-specific instruments and tools including mainstreaming of ESHS aspects in other sector operations; (c) Strengthening ESHS compliance monitoring and supervision by MAAIF; (d) Enhancing MAAIF's E&S management infrastructure such as E-ESHS tracking system, hazardous waste disposal facilities, and analytical monitoring equipment (such as liquid chromatography mass spectrometer, high-performance liquid chromatography, accessory equipment, glass wares, standards and reagents for testing the quality of pesticides, and portable test kits for rapid detection of fake fertilizers, among others); (e) Strengthening grievance redress mechanism (GRM) structures; (f) Acquiring ESHS statutory permits and certificates in respect of project components; (g) Strengthening gender mainstreaming aspects in the project including sexual exploitation and abuse/gender based violence (GBV); and (h) strengthening stakeholder and institutional participation and mindset change including protection of vulnerable groups.

37. **Project financing.** The total project cost is estimated at US$354.7 million equivalent, of which IDA will finance US$300 million under an Investment Project Financing (IPF) instrument, US$50 million equivalent through the WHR and US$4.7 million from the Government of Uganda. The project will be implemented over a period of six years.

Table 1. Estimated Project Cost and Financing

Project Component	Project Costs (US$, millions)	IDA Financing (US$, millions)	WHR Financing (US$ millions)	GoU Counterpart funding (US$ millions)
1. Strengthening Climate Smart agricultural Research, seed and Agroclimatic Information Systems	**66.90**	64.60	2.30	
2. Promoting Adoption of Climate Smart Agriculture Technologies and Practices	**207.79**	172.00	32.50	3.29
3. Market Development and Linkages for Selected Value Chains	**57.30**	44.00	13.30	
4. Contingency Emergency Response	**0.00**	0.00	—	
5. Project Management, Coordination and Implementation	**22.71**	21.30	1.90	1.41
Total	**354.70**	**300.00**	**50.00**	**4.7**

C. Project Beneficiaries

38. **Project coverage.** The project has targeted agroecological zones that have increasing and high levels of poverty and high levels of land and natural resource degradation as well as low-value production. Agroecological zones included in the project are (a) northeastern dry lands (Karamoja); (b) northeastern savannah grasslands (East Acholi and Northern Lango); (c) Kyoga plains (southeastern Lango, Teso, Bukedi, and northern Busoga); (d) western highlands, southern highlands, southern drylands, and lake Albert crescent; (e) eastern (Elgon) highlands (Bugisu and Sebei); and (f) central region

39. **Criteria for selection of districts.** The selection of districts in the agroecological zones is based on climate change vulnerability of the watersheds, poverty levels at subregional level, and watershed degradation. Climate change vulnerability was assessed by rainfall variation received in different watersheds as compared to long-term average, increase in land surface temperature, and frequency of climate related disasters such as flood, drought, hailstorms, and heavy storms. Poverty levels were assessed based on the proportion of poor persons and the proportion of households in subsistence economy in the subregions as reported by the UBoS report 2020. Additional criteria included RHDs, proportion of households using grid electricity, proportion of households using wood fuel for cooking, and

the number of existing project interventions already implemented within the districts. Based on these criteria, the project will be implemented in 69 districts and include 7 RHDs[23].

40. **Beneficiaries.** The project is expected to directly benefit about 760,000 households, and indirectly benefit approximately 1,900,000 households. Among these, beneficiaries from the non-refugee districts will be about 620,000 households. About 60,000 refugee households are expected to directly benefit from the project along with 80,000 refugee-hosting households[24]. The direct beneficiaries of the project are the users of land and its resources including crop, livestock, and fish farmers; pastoralists; forest users; refugees; and their host communities. The project will target individuals within farmer groups, and cooperatives, and will support the formation of groups and cooperatives. The project will also target poor and vulnerable households as well as marginalized groups such as youth and women. Priority and attention shall be given to youth engagement with at least 40 percent of direct beneficiaries expected to be women. The indirect beneficiaries are the household members of the project participants and the users of the rehabilitated lands and sustainably managed natural resources that have not benefited directly from the project but are benefitting indirectly from project activities. It is expected that about 3,900,000 individuals will directly benefit from project activities (and approximately 9,500,000 individuals will indirectly benefit), of which 265,000 are refugee direct beneficiaries and 400,000 are direct host community beneficiaries. This represents 65% of the total population in the project districts[25].

D. Results Chain

41. The project interventions will target the northeastern and southwestern regions of the country. Vulnerable to climate and weather shocks, these regions register low productivity and high postharvest loss in the agricultural value chains and households are susceptible to poverty.

42. The project will support investments in identifying and disseminating CSA TIMPs, market-driven productivity, production, and climate resilience of target value chains. These investments will contribute to adapting to the effects of climate change thereby sustainably increasing agricultural productivity and household incomes while enhancing resilience to climatic shocks. The project theory of change incentivizes farmers to adopt CSA technologies and SLM practices by providing incentives and orienting such activities to markets, creating a virtuous cycle between farmers' investment in sustainable farming and enhanced climate resilience and livelihoods. The project will also provide customized support to refugees and refugee-hosting communities for their increased adoption of CSA TIMPs and enhanced food and nutrition security.

43. The overall objective of the proposed project will be achieved via (a) building and supporting institutional structures that will facilitate uptake, adoption, dissemination, and continued use of CSA TIMPs through institutional capacity building and adaptive research activities; (b) investing to promote upscaling and adoption of TIMPs for productivity enhancement, resilience, and sustainability in selected value chains using various incentive approaches including grants and LIPW adapted to context and location; (c) promoting improved access to markets by facilitating farmer organizations to invest in climate smart postharvest management, storage, and value addition equipment and facilitating market access

[23] Lamwo, Isingiro, Kamwenge, Kyegegwa, Kiryandongo, Kikuube, and Adjumani.
[24] Host communities are defined as Ugandan nationals residing within the 7 RHDs.
[25] The estimated population for the 69 districts is 20.7 million (UBOS 2022). Direct beneficiaries are 3,900,000 and indirect is 9,500,000 totaling 13,400,000 representing 65% of the population in the 69 districts.

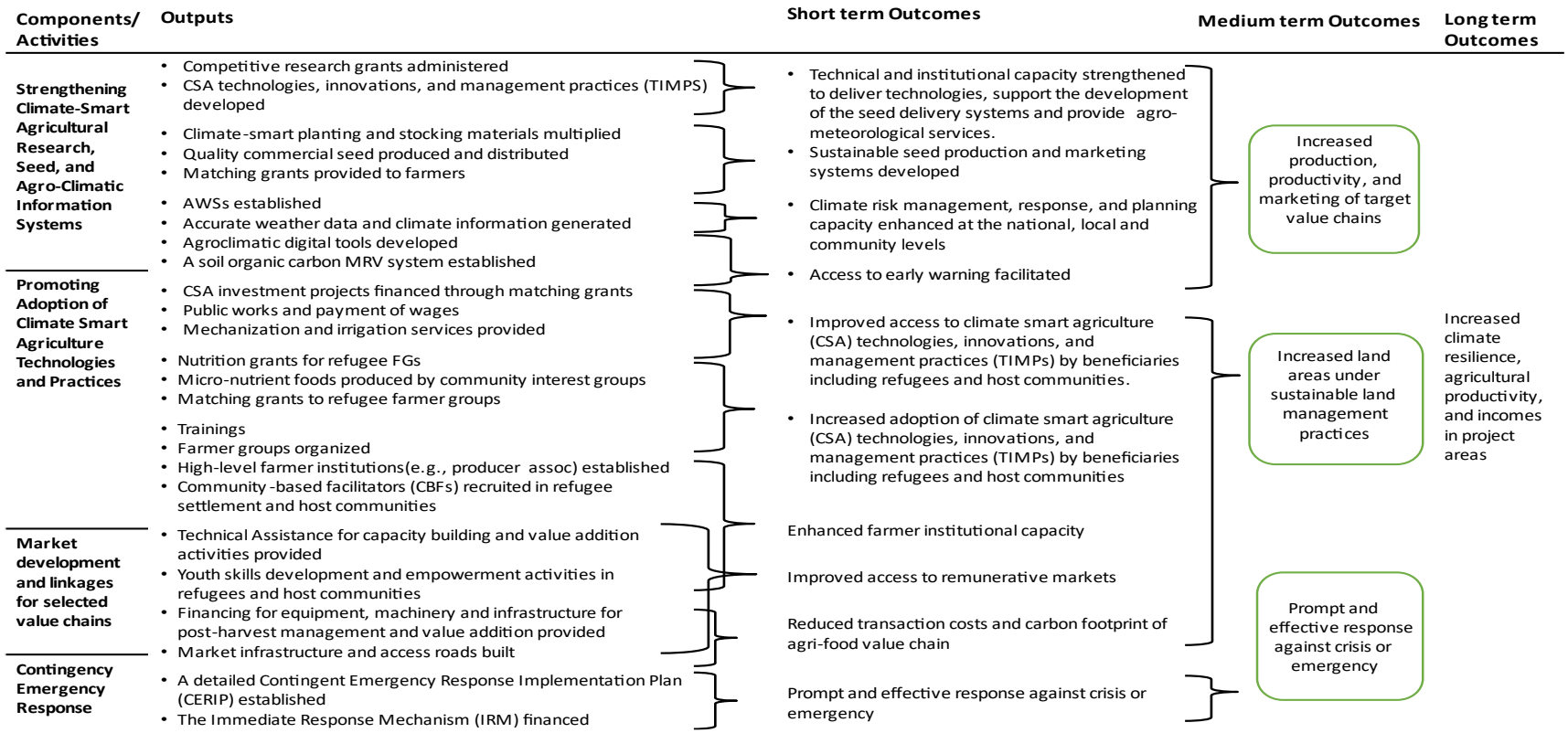
infrastructure; (d) ensuring consistent access and availability to climate smart seed systems through partnerships between research, private sector, and farmer organizations; and (e) strengthening climate risk predictions, response, and planning at all levels for improved decision-making.

44. For the objectives to be fully met, the political and macroeconomic framework must remain stable, especially with the ongoing global COVID-19 pandemic. A high level of coordination is required at the regional and district levels as well as the inter-ministerial level given the roles and partnerships expected of government agencies, private sector partners, and non-state actors. Furthermore, the market price of the surplus target value chains will be maintained at a profitable level to continue to incentivize farmers to practice CSA technologies and orient them to markets.

45. The intended benefits of the project have been defined and appropriate indicators are identified as presented in the Results Framework (RF). The RF indicators will be used to assess whether these benefits are being realized during implementation.

Figure 2. UCSATP Theory of Change

PDO: To increase productivity, market access and resilience of select value chains in the project area and to respond promptly and effectively to an eligible crisis or emergency.



Critical Assumptions

- The political and macroeconomic framework remains stable.
- A sufficient level of coordination exists at the regional and district levels as well as the inter-ministerial level.
- The market price of the surplus target value chains is maintained at a profitable level to continue to incentivize farmers to practice CSA technologies and orient them to markets.

E. Rationale for Bank Involvement and Role of Partners

46. **Rationale for public sector financing.** Attracting private financing to the agriculture sector has often been hampered by the perception of substantial risk, low organizational capacity by farmers, and high losses from inferior quality and wastage of agricultural output arising from poor postharvest handling practices. Adoption of CSA and improved management of the natural resource base are approaches that address many of the challenges faced by the sector. When farmers enhance their organizational capabilities and increase their productivity, resilience, and adaptation to climate change, they build better risk profiles that make them attractive for private sector engagement. It is therefore critical that incentives to barriers that prevent them from investing in their farms are eliminated to facilitate active participation in value chains. Support in eliminating incentive barriers will promote sustained adoption of improved technologies and management practices, which can also generate positive outcomes that benefit public goods such as improved soil retention, reduced water runoffs, and lower GHG emissions. Public financing of interventions that promote CSA adoption including infrastructure support and provision of weather and market information systems as well as advisory services are needed for farmers' long-term investments and public benefits.

47. **Value added of the World Bank Group support.** Climate change mainstreaming is central to all agriculture and food operations in the Africa East region, and in line with corporate commitments, this project will incorporate appropriate adaptation and resilience measures across project interventions. The World Bank brings substantial added value to the process of the design, financing, and implementation of the project. The World Bank support will bring global experience and expert knowledge to bear upon several aspects of the program including the rehabilitation of agricultural infrastructure which consists of market infrastructure and access roads, the design of agricultural input support schemes, and the approaches to strengthen the output marketing of the targeted value chain for the selected beneficiary groups. The World Bank's support would also bring several partners into the design and complement several ongoing and planned efforts supported by other external development partners. Among these are the programs supported by the Danish International Development Agency, International Institute of Tropical Agriculture, Food and Agriculture Organization, *Deutsche Gesellschaft für Internationale Zusammenarbeit*, N.V. *Slibverwerking Noord-Brabant* of the Netherlands, and UK Aid Direct. Most of these programs focus on strengthening the capacity of smallholder farmers and cooperatives for them to adopt climate resilient practices.

F. Lessons Learned and Reflected in the Project Design

48. The project will draw on past and present operations to build on interventions related to scaling up SLM, enhancing private sector collaboration, operationalizing early warning systems, supporting improved productivity and market access among others, and increasing resilience of households. The key lessons that have informed the project design include the following:

(a) Well-resourced and capacitated local governments are critical to mainstreaming of SLM interventions as they facilitate rapid scale-up through mobilization of local leadership, identification of local trainers, and provision of extension support as well as implementation supervision. Through subnational governments, capacity for SLM planning, expansion, and maintenance can be promoted and sustained at the lowest levels.

(b) A strong focus on strengthening institutional and implementation arrangements at the watershed level alongside adoption of locally driven participatory approaches are important for improved service delivery.

(c) Small and declining size of land parcels work to the detriment of SLM investments as they create disincentives for investments into modern technologies because uptake costs become prohibitive relative to land size. The project will explore synergies, particularly in project areas where land titles have been issued.

(d) Institutional building of farmer groups into legally registered entities facilitates broader access to resources and economies of scale. Organized smallholder farmers engage in value addition and processing activities that open opportunities and increase partnership incentives with off-takers into export markets.

(e) Investments into early warning systems are critical, particularly at the district level, to enable timely decision-making and actions to avert potential disasters and threats. Provision of equipment, materials, and training of different stakeholders enables a more streamlined process of data collection, dissemination, and utilization.

(f) There is significant potential to engage refugees and host communities together to build social cohesion, alleviate poverty, and increase productive investment using refugee-sensitive value chains. The project will seek to scale up interventions that build agricultural productivity while mitigating protection risks through leveraging lessons from other WHR financed investment projects.

II. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

49. **Implementation of UCSATP will be through existing structures and systems.** The Ministry of Agriculture Animal Industry and Fisheries (MAAIF) will be the lead implementing agency with primary operational guidance and implementation functions as well as overall responsibility for project implementation. MAAIF will be supported by the National Agriculture Research Organization (NARO), National Animal Genetic Resources Center and Data Bank (NAGRC&DB) and Uganda National Meteorological Authority (UNMA) as implementing agencies of UCSATP.

50. **The Government will establish the National Project Steering Committee (NPSC) to provide strategic guidance and oversight at the policy level.** The NPSC will be co-chaired by the Permanent Secretaries of MoFPED and MAAIF. Key members of the NPSC will include other government ministries (OPM, MTIC, MLG, MoGLSD, NEMA, NFA, MoLHUD, MoWT, and MWE) and senior leadership from line agencies (NARO, NAGRCDB, UNMA). The NPSC secretariat will be the National Project Coordination Unit, which will be responsible for coordinating project implementation.

51. **The Government will establish a National Project Coordination Unit (NPCU) that will be responsible for the day-to-day operations, coordination, and management of project implementation**. The NPCU will draw on government and technical personnel, and will at a minimum, consist of the following competitively recruited professional staff: (a) Deputy Project Coordinator (NPCU); (b) M&E Officer; (c) Senior Financial Management Officer; (d) Grant Management Officer; (e) Finance Officer; (f)

Senior Procurement Officer; (g) Senior Environment Health and Safety Officer; (h) Senior Social Safeguards Officer; and (i) Senior Sustainable Land Management Officer. A Refugee Livelihoods Officer will be added to the NPCU and will work with the Jobs and Livelihoods Integrated Response Plan (JLIRP) Secretariat. A Senior Communications and Knowledge Management Officer will be designated from MAAIF full time for the project. A MAAIF Officer at the Commissioner level will be appointed full time as the National Project Coordinator, as will the Component Heads.

52. The NPCU will be supported by the National Technical Advisory Committee (NTAC) comprising among others, Deputy Director General (NARO), Technical Manager Breeding (NAGRC&DB) and commissioners of relevant line ministries and departments including OPM, which will provide technical guidance to the NPCU on project implementation. The NPCU will liaise with the NARO Secretariat that will coordinate and manage the competitive research grants through its existing structures.

53. **Zonal Coordination Structures.** At the zonal/agro-ecology level, the project will work closely with existing structures. The zonal regional coordination support will be set-up at the PARI to be overseen by a Zonal Technical Committee (ZTC). The ZTC will comprise of the PARI Director; the District Production Officers of participating districts in that zone; the regional AnGRCs Officer; and private sector and farmer organizations representatives**.** It will be co-chaired by the PARI Director and the District Production Officer of the PARI hosting district. It will provide coordination oversight for TIMPs' dissemination and convening authority in the respective zones to discuss emerging needs. The ZTC will also convene the Multi-Stakeholder Coordination Platform for planning, dialogue, and participatory priority setting among stakeholders for developing selected investments in the zones in an integrated manner.

54. **District Coordination Structures**: The project will leverage existing structures at the District, Sub-County, Parish and refugee settlement levels. Their responsibilities with regards to this project will be guided by the terms of reference issued by the Permanent Secretary of MAAIF to be included in the POM. In RHDs, the district coordination structures will work closely with OPM and the OPM Department of Refugees camp commandant within existing refugee settlement structures.

55. The specific roles and responsibilities of key players are presented in Annex 1.

B. Results Monitoring and Evaluation Arrangements

56. A results-based M&E system would monitor project processes using the following tools: (a) an RF that is derived from clearly identified goals, objectives, outputs, and activities with corresponding indicators, means of verification, and key assumptions; (b) a well-defined M&E strategy regarding information requirements, tools, and methodologies for data collection, analysis, and reporting; (c) a comprehensive M&E plan with clear roles and responsibilities with respect to data gathering and reporting; and (d) internal and external periodic assessments and evaluations that include baseline studies, beneficiary assessments, midterm evaluations, ex post evaluations, and impact evaluations.

C. Sustainability

57. Through the project design and activities, sustainability will be a priority across multiple fronts including institutional, financial, environmental, and socio-behavioral. Institutionally, the project will be careful to build on existing platforms, organizational mechanisms, and farmers groups, where they exist, investing further to grow their organizational and financial capacity—for example, through legal

formalization of farmers' groups—to be able to sustain technical and financial assistance beyond the close of project. In each component, relevant actors across national and local government, the formal/commercial private sector, and producers are targeted for participation. This is also reflected in an approach to access to finance that aims to offer an appropriate degree of project support (for example, matching grants) while paving the way for participants to graduate to alternative and more commercial sources of finance (for example, through off-taker arrangements or access to credit), without adversely affecting the potential for private sector or relevant government providers to engage.

58. With its focus on SLM and CSA, a cornerstone of the project's environmental approach is sustainable agricultural intensification, utilizing relevant strategies and efficient technologies. All productive activities are intended to integrate attention to resilience and protection of the resource base and increase resource use efficiency. Attention has also been paid to the barriers to adoption of improved CSA technologies. Global lessons show that, while household characteristics, asset base, institutional membership, and individual belief systems all play a role, few universal factors influence adoption. Recent evidence from the region (Tanzania and Kenya) has however underlined the importance of land ownership, female control of resources, and farm assets as important elements.

III. PROJECT APPRAISAL SUMMARY

A. Technical Analysis

59. The project approach is to support farmer organizations by providing access, through research, to technologies adapted to their agro-ecologies to enable effective uptake to increase productivity. Technology access will be facilitated through matching grants that farmer groups will access by leveraging savings generated through group activities. The project recognizes the impact that land degradation has on productivity and aims to address this through provision of financial incentives and cash for work to facilitate adoption of technologies and management practices that raise productivity in a sustainable manner. The investments made in infrastructure will contribute to value addition and open up opportunities to the market thereby contributing to increased household incomes. The monetary benefits of market access will enable farmers to re-invest in improved management practices that sustain long-term adoption. The use of these approaches is based on existing and widespread successful experience in Uganda with implementation of Agriculture Cluster Development Project (ACDP) (P177485), Northern Uganda Social Action Fund (P149965) and the Development Response to Displacement Impacts Project (DRDIP) (P176626). The project's economic analysis also shows that the project is economically viable. Further, the project will provide significant levels of training and capacity building at MAAIF, the district and sub-national levels and at the farmer organization level to support mindset change and shift approaches towards more climate smart sustainable productivity enhancements. In addition, the project will draw from global best practices in the development of approaches and methodologies that can be contextualized to the country and local landscapes.

B. Economic and Financial Analysis

60. The economic analysis evaluates the project's benefits and costs to the national economy over a period of 30 years using a discount rate of 6 percent as the opportunity cost of the project resources invested. The analysis aggregates net incremental benefits from adopting SLM and CSA TIMPs (valued in economic terms) and monetized co-climate benefits from reduced GHG emissions and increased carbon

sequestration. The economic analysis uses investment costs of US$350 million from year 1 to year 5. The resulting economic net present value (NPV) is about US$618.6 million, and the economic internal rate of return (EIRR) is 14.6 percent. The respective figures for the low carbon price and high carbon price scenarios are NPV of US$626 million and EIRR of 14.7 percent and NPV of US$628 million and EIRR of 14.8 percent, respectively.

61. The respective returns per investment for each of the nine categories of investments considered are presented in Table 2. The economic model essentially aggregates the incremental net benefits of the value chain models identified in the financial analysis (but valued in economic prices) and the environmental benefits captured by the project's net carbon balance to derive the project's NPV and EIRR. Sensitivity analyses demonstrate that the project can absorb a wide range of negative impacts and still generate an EIRR exceeding the 6 percent opportunity cost of capital; the analysis hence supports the public investment.

Table 2. Returns per Investment in Selected Enterprises

Model	NPV (US$) per Beneficiary	Benefit-Cost Ratio
Perennial crops	1,747	23.47
Seasonal (annual) crops	583	10.71
Forage	(1,045)	1.75
Cold chain	81	3.98
Beef	4,535	3.22
Dairy	755	1.31
Apiculture	107	1.02
Poultry	40	2.09
Fisheries and aquaculture	326	1.84

62. The financial analysis compares 'with project' and 'without project' scenarios at the farm level to estimate the viability of adopting SLM and CSA TIMPs for 11 crop value chains. The analysis shows positive incremental benefits for adopting SLM and CSA TIMPs considering a time frame of 30 years and a discount rate of 18 percent reflecting Uganda's average commercial lending rate. The NPVs of incremental benefits range from a high of UGX 26.3 million for mango value chain to a low of UGX −11.2 million for the forage value chain.

63. With respect to refugees in RHDs, there are strategies that could be pursued to improve refugee access to land including share cropping and land rentals; however, the short-term interventions might be to promote value chains using small pieces of land. Such value chains could include apiary and vegetable-based value chains (tomato, onion, and okra), among others. In addition to enhancing the nutrition and diets of refugees and host communities, it is envisaged that earnings from these value chains would be spent on acquiring other household food needs. There is evidence that traditional enterprises offer better livelihoods for supporting refugees and host communities in northern Uganda[26]. The economic viability of the proposed value chains based on gross margins in the context of refugees and host communities is presented in Table 3.

[26] Lakwo and Enabel (2018), Secondary Labour Market Study in Northern Uganda.

Table 3. Economic Viability of Value Chains based on Gross Margins

Value Chain	Gross Margin (UGX) per Year (Unit as Specified)
Apiary	145,818 per KTB hive
Tomato	760,000 per acre
Onion	995,200 per acre
Okra	377,000 per acre

64. The gross margins results suggest that all the four proposed value chains are profitable with the onion value chain being the most profitable among the crop value chains. Moreover, additional value could be captured by refugees moving higher up the value chain into wholesale, retail, and value addition engagements.

65. Beyond economic viability, the value chains are considered appropriate for refugees and host communities because they use less land and are of high value. They are also easily amenable (especially the crop value chains) to CSA technologies and practices notably mulching, manure application, minimum tillage, and physical soil and water management. In addition, the four enterprises are short duration and are capable of very high turnover for the benefit of cash strapped refugee households. They are also important sources of nutrition and are highly marketable in the refugee-hosting localities and beyond. These value chains also require less investment capital and limited extension support. The latter is an important consideration given the limited access to extension services in refugee camps and host communities, which the project also aims to address.

C. Fiduciary

(i) Financial Management

66. UCSATP will be streamlined into existing structures of various key agencies at the national and local levels and will cover 69 districts. MAAIF will be the lead IA with primary operational guidance and implementation functions as well as the overall responsibility for project implementation and accounting for the project funds.

67. The objective of the assessment is to determine whether (a) MAAIF has adequate FM arrangements to ensure the project funds will be used for purposes intended in an efficient and economical way; (b) project financial reports will be prepared in an accurate, reliable, and timely manner; (c) the entity's assets will be safeguarded; and (d) the financial statements are subject to auditing arrangements acceptable to the World Bank. Under OP/BP 10.00, borrowers and project implementation entities are supposed to have and maintain adequate FM systems which include budgeting, accounting, internal controls, funds flow, financial reporting, and auditing arrangements to ensure that they can readily provide accurate and timely information regarding the project resources and expenditures. These arrangements are deemed acceptable if they: (a) are capable of correctly and completely recording all financial transactions and balances relating to project resources; (b) can facilitate the preparation of regular, timely, and reliable financial statements; (c) safeguard the project's assets; and (d) are subject to auditing arrangements acceptable to IDA. The FM assessment was carried out in accordance with the World Bank Directive: Financial Management Manual for World Bank Investment Project Financing Operations issued February 4, 2015, and effective from March 1, 2010, and the World Bank Guidance: Financial Management in World Bank Investment Project Financing Operations issued and effective February 24, 2015.

68. The assessment identified key risks that include (a) failure to carry out internal audit reviews at intervals stipulated in the Financing Agreement (MAAIF and districts)—this is a high risk given the number of other ongoing projects and ministry activities and spread of operations, (b) delayed transfer of funds to project implementation level occasioned by delays to account for project funds, (c) delayed submission of financial reports, (d) low quality reports, and (e) delayed submission of workplans and budgets. To mitigate these risks, targeted training will be developed to address any deficiencies that are identified through more in-depth financial management and procurement capacity assessments. Appropriate audit arrangements will be put in place with independent entities engaged to verify the achievement of project results. To ensure that the project is effectively implemented, MAAIF and other participating agencies/districts will ensure that appropriate staffing arrangements are maintained throughout the life of the project to ensure adequate oversight over project resources.

69. The conclusion of the assessment is that the FM arrangements are satisfactory to manage the project and satisfy the World Bank's minimum requirements under OP/BP 10.02. The system can adequately provide, with reasonable assurance, accurate and timely information on the status of the project. The FM arrangements for the project have a Substantial residual risk rating.

(ii) Procurement

70. **Applicable procurement procedures.** Procurement for project activities will be carried out in accordance with the World Bank Procurement Regulations for IPF Borrowers, dated November 2020, hereafter referred to as Procurement Regulations. The project will also be subject to the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated July 1, 2016, and the implementation provisions stipulated in the Legal Agreement including beneficiary disclosure requirements.

71. **Project Procurement Strategy for Development (PPSD) and Procurement Plan (PP).** A PPSD has been prepared by the borrower to improve implementation of the project and help achieve results. The PPSD describes the overall project operational context, market situations, and IA's capacity and identifies possible procurement risks and mitigation measures to achieve value for money in pursuit of the PDOs. The PPSD also sets out the selection methods to be followed in the procurement of goods, works, and non-consulting and consulting services financed under the project. The PP for the first 18 months was prepared and will be updated at least annually or as required to reflect the actual project implementation needs.

72. **Systematic Tracking of Exchanges in Procurement (STEP).** The proposed project shall use the World Bank's online procurement system, STEP, a planning and tracking system that will provide data on procurement activities, establish benchmarks, monitor delays, and measure procurement performance. In line with the Procurement Regulations, the Uganda Electronic Government Procurement local solution will only be used for project procurements after the system is assessed and confirmed to be adequate in terms of its accessibility, security and integrity, confidentiality, and audit trail features among others.

73. **Procurement capacity risk assessment** was conducted for MAAIF, NARO and NAGRC&DB. All the agencies have experience implementing IDA-funded projects under the Procurement Guidelines gained through implementation of the closed East Africa Agriculture Productivity Project (P112688), Agricultural Technology and Agribusiness Advisory Services Project (P109224) projects and the ongoing ACDP (P177485) and Uganda Multi Sectoral Food and Nutrition Project (P176038). The project will leverage on

this knowledge. Procurement staff in all the agencies have been updated on key changes in the Procurement Regulations. The Contracts Committees in the respective agencies provide oversight of the procurement function in accordance with the PPDA Act, No 1 of 2003. Key procurement risks identified include: (a) failure to fully implement planned procurements; (b) failure to complete procurements within planned timelines due to delayed initiation of planned procurements and lengthy periods between the procurement cycle stages, (c) nonadherence to contractual payment terms; (d) award of contracts above cost estimates; (e) nonenforcement of the requirement for performance security; (f) irregularities in evaluation of bids due to use of criteria not stated in bid documents; (g) inadequate procedures of conducting due diligence to confirm qualification and experience of individual consultants; (h) poor contract management and absence of documentation to ascertain satisfactory completion of contractual deliverables; and (i) increased work load attributable to project. Measures to mitigate the risks include: (a) Improve internal quality assurance mechanism for validation of cost estimates for major procurements before initiation; (b) advance procurement in accordance with the Procurement Regulations and contracts to be signed only upon confirmation of funding; (c) the PIM to outline due diligence process to confirm qualification and experience of individual consultant during procurement process; (d) Contracts Committees to ensure recommendations of award are in accordance with criteria in issued bid documents; (e) enforcement of performance security within periods stated where applicable; and (f) recruitment of a procurement specialist under MAAIF dedicated to the project.

74. There may also be risks associated with the procurement of solar panels and components, in which case, appropriate mitigation measures would need to be put in place. Prior to beginning the procurement process, the Borrower will undertake market analysis to identify the possible sellers of solar panels to the project. The bidding documents will emphasize forced labor risks in solar panels and components and will require that sellers of solar panels to the project will not engage or employ any forced labor among their work force. Bidders will be required to provide two declarations: a Forced Labor Performance Declaration (which covers past performance), and a Forced Labor Declaration (which covers future commitments to prevent, monitor and report on any forced labor, cascading the requirements to their own sub-contractors and suppliers). In addition, enhanced language on forced labor will be included in the procurement contracts. The World Bank will prior review procurements of solar panels and components to ensure that enhanced provisions are used by the Borrower. The procurement risk assessment is considered Substantial.

75. **Procurement arrangements:** The procurement processes will involve NARO, NAGRC&DB and UNMA at the National and local levels. MAAIF as the lead implementing Agency will implement the planned procurement for NARO, NAGRC&DB and UNMA. These Agencies shall be considered User Departments (as provided for in the PPDA Act) under MAAIF. The Agencies will be involved in the procurement cycle of their planned activities right from planning to contract management for ownership. A Delegated Contracts Committee will be constituted to expedite procurement review and decisions for project procurement. MAAIF will review the procurement arrangements, provide further guidance to streamline processes where necessary, ensure oversight and regular reporting on procurement undertaken.

D. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

E. Environmental and Social

76. **Environmental risk.** In general, the project will generate positive outcomes that are expected to outweigh negative ones. The project has the potential to deliver environmental benefits by, among others, discouraging agricultural activities that degrade the environment including wetlands and promoting less impactful enterprises such as aquaculture, apiary, and agroforestry. SLM benefits that include control of soil erosion not only increase soil fertility but also reduce siltation of water bodies including wetlands, increase agricultural productivity through soil and moisture conservation and enhance ecotourism, and promote climate smart technologies such as solar-powered water pumps.

77. Notwithstanding, the project will support activities involving: construction of dams [27] for impounding water to support irrigation, aquaculture and watering animals; desilting/rehabilitation of existing dams, valley tanks and/water pans; small-scale civil works and the operation and maintenance of agro-processing and storage facilities that are likely to generate moderate to substantial environmental risks and impacts related to occupational health and safety aspects during the operations and equipment and machinery. Key environmental risks and impacts are expected to range from moderate to substantial and will largely occur during the construction phase such as (a) occupational health and safety concerns, including physical (solar radiation and heat) and chemical (fuels, oils, lubricants, paints, and solvents) hazards; (b) community health and safety issues, related to road traffic and communicable diseases (for example, HIV and AIDS and COVID-19), water-related diseases like typhoid fever, malaria, and cholera could increase due to damming and harnessing of water; and accidents such as drowning into dams; nuisance from noise, vibration, and dust, as well as soil and water bodies contamination from hazardous and nonhazardous waste and debris during constructions activities, incremental use of pesticides and fertilizers which in turn will generate substantial risks and impacts to human health through the application, handling, storage and disposal of agrochemicals and containers; and (c) habitat loss or modification due to vegetation clearing and fauna disturbance resulting from earth movement, expansion of cultivated land resulting in soil erosion, increased pressure on water resources through irrigation that could affect environmental flows in river and wetland ecosystems, discharge of water from fishponds potentially reducing water quality in the wetlands as they may be loaded with nutrients, and the use of pesticides and inorganic fertilizers that could increase and lead to the release of chemicals into water sources and damage soil health. In general, anticipated environmental risks and impacts are expected to be, predictable, and/or reversible with moderate and substantial effects on humans and the environment.

78. **Social standards assessment.** The social risk rating is Substantial based on the anticipated project risks and impacts and the IAs and local governments' low capacity in Environmental and Social Framework (ESF). Social risks associated with the project will mainly emanate from anticipated activities under

[27] Dams include infrastructure for harnessing and storage of water, cannals, valley tanks, water ponds, water supply reserviors, water reserve tanks.

components 1, 2, and 3, which respectively include (a) labor-intensive works and civil works, (b) upgrade or refurbishment of existing agro-processing machinery/construction of agro-processing-related infrastructure such as stores and plants and houses, and (c) the rehabilitation of climatic stations/installation of automated weather stations across the country. The labor-intensive works (construction of road chokes) will involve community members; however, it is anticipated that civil works under components 2 and 3 may lead to influx of workers into the community targeted under these interventions. It is also anticipated that land acquisition will be required for the construction of dams and animal holding facilities. Additionally, there may be economic displacement as a result of the inundation of land where dams (for impounding water to support irrigation, aquaculture and watering animals, desilting/rehabilitation of existing dams and valley tanks) will be constructed, potential loss of water upstream, waterborne diseases and occupational health and safety risks taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups (likely drowning of animals and children). Social impacts such as GBV, sexual exploitation and abuse, and transmission of communicable diseases such as HIV/AIDS on affected communities may also occur as a result of project activities. Other anticipated risks include social exclusion based on gender, disability, age, and other vulnerabilities. Inadequate engagement of the various stakeholders and an inadequate GRM also present a risk. In addition, it is anticipated that there might be restricted access to ecosystems services for community members that have been benefiting from forests located in the project area that are usually relied upon for firewood, medicinal plants, and fruits. It is also worth noting that ESF capacity for the IAs and relevant local governments is low, and substantial strengthening will be required before implementation.

79. To mitigate the E&S risks and impacts, the project has prepared and will implement an Environmental and Social Management Framework (ESMF). The ESMF has included measures for Labor Management Procedures; Health, Safety, and Environmental Plan; Stakeholder Engagement Framework; Pest Management Plan; 'Chance Finds' Procedures; and a template for preparing Environmental and Social Management Plans (ESMPs) or Project Briefs as defined in the national legislation, as necessary for managing risks and impacts related to any civil works. The ESMF also outlines the implementation arrangements, including a capacity-building program for adequate E&S risk management for various project interventions. Any subproject-level civil works will develop and implement an ESMP that will be reviewed and approved by the World Bank before the start of construction works. In addition, the client has prepared a Resettlement Policy Framework and a Process Framework to provide guidelines on addressing any potential physical and/or economic displacement and also any restriction of access to ecosystems services for community members that have been benefiting from forests located in the project area. A Vulnerable and Marginalized Groups Framework has also been prepared and will provide guidance on mitigating potential impacts on marginalized groups. The client has prepared a stakeholder engagement framework, and engagements have been part of project preparation and design process. The project will endorse a participation approach that considers different stakeholders and supports significant consultations of all parties. The project will ensure that terms of reference (ToR) for all relevant activities are consistent with the ESF, and this requirement has been reflected in the Environmental Social Commitment Plan (ESCP). The ESCP, Stakeholder Engagement Framework (SEF), and the Environmental and Social Review Summary were disclosed in-country and on the World Bank's website on October 27, 2022, and in the New Vision national newspaper on November 2, 2022. The project's ESMF, Resettlement Policy Framework and Vulnerable and Marginalized Groups Framework were disclosed locally at *https://www.agriculture.go.ug/policies/* and the World Bank's external website on October 27, 2022.

80. **GHG and Shadow Price of Carbon**: The FAO EX-ACTv9 tool was used to analyze the potential net GHG emissions/sequestered/avoided due to project implementation (with project), as compared to a

business-as-usual scenario (without project). Results show that the project will have a net carbon sink of -221,499 tCO_2eq annually, and a total of -6,644,971 tCO_2eq during the lifetime of the project. This positive environmental outcome is largely due to the positive effects of perennial crop production, agro-forestry, and land use change towards more sustainable land use and management. (See Annex 2)

81. **Climate Change**: The selection criteria used to identify project districts included climate change vulnerability of watersheds and level of watershed degradation. In terms of interventions, project investments such as seed systems for improved breeding and multiplication programs will also seek to select for reduction of GHG emissions of livestock, which contributes the largest agriculture emissions in the country. A soil organic carbon monitoring, reporting and verification system will be established to support actions to capture carbon removals from soils and incentives for promotion of appropriate actions for reducing GHG emissions from farms. Investments in SLM will ensure that land degradation is reduced, and agriculture land management improved to reduce agriculture and community land based GHG emissions through soil carbon losses. Promotion of CSA TIMPs such as agro-forestry will have significant contributions towards GHG emission reduction in agriculture. Investments in equipment and infrastructure will have energy efficiency considerations. Capacity building efforts in the project through investment planning will also ensure that stakeholders implement climate change mitigation and adaptation for ecosystem protection and restoration, and to manage technology uptake and promotion in a sustainable manner that will contribute towards reducing GHG emissions. For further details, see Annex 2.

82. **Citizen Engagement**: The project will aim to strengthen citizen engagement with all stakeholders including refugees and implementing partners. Some citizen engagement approaches that will be employed include the following: (i) demand driven articulation of inputs needs through participatory mobilization and training of beneficiaries; (ii) participatory planning process in the development of CSA plans, micro-investment plans, district investment plans and the development of agricultural settlement land management plans in refugee settlements; (iii) implementation of a Grievance Redress Mechanism and monitoring its effectiveness through the project MIS. The project is also making investments in undertaking beneficiary surveys that will provide periodic feedback and planned regular engagement of stakeholders through platforms such as the Multi-Stakeholder Coordination Platform that will be used for planning, dialogue and participatory priority setting among stakeholders.

83. **Gender gaps.** Women play a vital role in Uganda's agricultural sector and contribute a higher-than-average share of crop labor in the region. They also make up more than half of Uganda's agricultural workforce. A higher proportion of women than men work in farming—76 percent versus 62 percent—and yet, when compared to men, have lower productivity.

Other Design Aspects

84. World Bank research in Uganda found that male-managed plots were 60 percent larger and 11 percentage points (25 percent versus 14 percent) more likely to be planted with cash crops. Overall, the simple gender gap in productivity in Uganda after accounting for plot size was found to be 30 percent. The same study attributed two-fifths of the productivity gap to women's greater childcare responsibilities and one-fifth to their difficulty accessing markets from more remote areas. Women were shown to plant fewer cash crops with limited access to and use of improved seeds and fertilizer as well as financial services. Social norms that assign the primary responsibility for household food production to women also contribute to this disparity, along with the fact that women typically receive lower returns to their inputs

because of gender biases in product markets. Women's lower likelihood of planting high-value crops may also result from limited access to climate change adaptation tools and extension services which will be addressed by the project.

85. Given that land ownership is often a requirement for membership in associations and cooperatives, most women are automatically excluded or discouraged from participating. Even as part of producer associations, women rarely have full access to credit and other benefits often considered to be spouses of members rather than direct participants. Moreover, women often play subordinate roles to men in most rural associations and cooperatives, lack voice, and are marginalized in the decision-making process.

86. **Actions.** Through its targeting of beneficiaries, institutional strengthening and capacity-building activities, and farm-level interventions, the project will ensure equal opportunities for female family farmers and technical staff. The project will support women's employment and decision-making throughout the activities contemplated under Components 1, 2, and 3. The aim is to guarantee that 40 percent of the project's beneficiaries are women. The project will provide improved access to educational and training opportunities for women including information resources and communication technologies to ensure they are aware of innovations and understand benefits on offer and how to access and apply. In addition to targeting female farmers via more conventional media, the low-cost use of smartphones could also offer strong potential for improving women's access to reliable information on CSA and SLM practices. There is an opportunity to ensure that female farmers are targeted/trained as much as male farmers with these new practices thereby giving them access to the knowledge as well as the agency to deploy or influence farm-level choices and practices.

IV. GRIEVANCE REDRESS SERVICES

87. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit https://accountability.worldbank.org.

V. KEY RISKS

88. **The overall risk rating for the project is Substantial.** The key risks and challenges include (a) insufficient capacity at the national and subnational levels to deliver services; (b) continued reliance on rainfed agriculture leaving the sector vulnerable to climatic risks and low productivity; (c) lack of harmonization of key policies across different ministries and sectors undermining the efficiencies in

service delivery; and (d) fiduciary management weaknesses, especially at the subnational level that could compromise service delivery. The below preliminary risk assessments and the associated ratings, together with the required mitigation measures, will be revisited.

89. **The technical design of the Project risk is Substantial.** The proposed project involves both Central Government agencies and subnational-level entities, which cut across sectors (agriculture, water, environment, and so on). The risk of inadequate vertical integration and coordination cannot be overstated. Furthermore, various local-level institutions ranging from farmer organizations, producer associations, and watershed management institutions, key for project implementation also present a risk. To mitigate the risk, the project will put in place sound M&E and verification mechanisms, including for the on-farm Incentive Fund (SLM). Setting up a robust M&E system and identifying credible verification entities will be critical to the success of the project.

90. **The institutional capacity for implementation and sustainability risk is Substantial.** Despite significant experience and capacity to implement IPF operations at the national level, most subnational-level entities have limited experience and capacity. This is further complicated by multiple local institutions that are envisioned to support the project implementation at the local level. To mitigate institutional capacity risks at the local level, implementation manuals will be developed to detail the institutional arrangements required to implement activities. District implementation support teams composed of various technical staff will also be set up. At the national level, due to its cross-sectoral nature, the project will make use of envisioned public sector working group and a technical working committee to enhance coordination across ministries and agencies and will include PSs to provide the much-needed strategic guidance and senior technical officers. To enhance the capacity to implement the project, technical assistance and training will be provided at the national and subnational levels, which are built into the design of the project.

91. **Fiduciary risk is Substantial.** Despite the existence of a generally satisfactory public procurement system within the Government, experience shows there can be lapses in fiduciary processes, which will need to be managed. Procurement planning and implementation capacity at the subnational levels, as well as FM, is however expected to be relatively weak. To mitigate these risks, targeted training will be developed to address any deficiencies that are identified through more in-depth FM and procurement capacity assessments. Appropriate audit arrangements will be put in place to verify project results and accountability.

92. **E&S risks are rated Substantial, considering the diverse activities to be included in the project.** The project will have significant and broadly positive E&S effects in the selected regions. These include the SLM and CSA activities which reduce land degradation and soil erosion and enhance water resource management and conservation. The project is also expected to lead to GHG emissions reduction through the various climate smart interventions proposed. However, some considerable environmental risks will include temporary, construction-related, and site-specific risks from public works, such as dust, wastewater, noise, solid waste, limited land acquisition or utilization, and occupational health and safety risks associated with construction and desilting of dams and other civil works; impacts on local environment and ecosystem produced in the implementation of project-supported activities, such as manure management and potential non-point pollution by fertilizers and pesticides; labor management issues; workers' health and safety; impacts on farmers' livelihoods; and so on. These adverse E&S impacts are however not significant nor irreversible and can be well identified and readily avoided, minimized, and mitigated. Social risk issues are likely to emanate from LIPW, especially if it may be required to have an

influx of labor from outside beneficiary communities. Others include risk of social exclusion due to gender, age, and disability. These will be managed through in-depth stakeholder engagement. Capacity building to strengthen local government and local community organizations will also help reduce risks. An in-depth ESMF will be implemented to help avoid significant adverse impacts on the environment and/or potentially affected people. Additional E&S staff will be recruited by MAAIF. ESMPs will be required for all civil works and construction.

93. **Refugee protection risks are Moderate[28].** The World Bank, in consultation with UNHCR, has confirmed that Uganda's refugee protection framework is adequate for accessing funding under the WHR. Uganda is adopting comprehensive humanitarian and development programs aimed at mitigating protection risks faced by refugees, but protection risks and challenges have been exacerbated by COVID-19 pressures. There is a moderate risk that Uganda's asylum space and refugee policies could become more restrictive in response to the strain on services and the natural environment, limited agricultural land, continuing refugee population growth and arrivals, COVID-19 restrictions and political pressure. Additional refugee specific risks include: limited funding for humanitarian assistance, which has caused reductions in food assistance and livelihood support; the high proportion of women and girls and other vulnerable people within the refugee population which poses specific protection challenges; increasing GBV and suicide rates; challenges to the ongoing allocation of land to refugees; prolonged school closures; and administrative and informal barriers for refugees to access productive employment, finance and market opportunities (including in the agricultural sector). The World Bank has undertaken analytical studies in Uganda across refugees and host communities on deforestation and environmental management, socioeconomic issues, informing refugee policy and access to finance and value chains and GBV. The findings of these are being operationalized within World Bank financed projects. These risks are then being managed jointly through effective in-country coordination mechanisms which include UNHCR, OPM, development and humanitarian partners and other parts of the GoU spearheaded by the CRRF Steering Group, which meets quarterly. The World Bank co-chairs the CRRF Development Partners Group which provides another effective platform to ensure joint management of the above risks, including on protection issues, with the GoU and other humanitarian and development organizations. The project will work through these coordination mechanisms to jointly manage these risks. The World Bank will also work closely with UNHCR to monitor the protection environment throughout project implementation. The residual risk remains moderate

[28] This is an "other" risk within the SORT codes.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Uganda
Uganda Climate Smart Agricultural Transformation Project

Project Development Objectives(s)

To increase productivity, market access and resilience of select value chains in the project area and to respond promptly and effectively to an eligible crisis or emergency.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	End Target
Project beneficiaries			
Project beneficiaries (Number)		0.00	3,900,000.00
Direct project beneficiaries (households) (Number)		0.00	760,000.00
Female beneficiaries (Number)		0.00	1,560,000.00
Refugee beneficiaries (households) (Number)		0.00	60,000.00
Host Community* beneficiaries (households) (Number)		0.00	80,000.00
National* beneficiaries (households) (Number)		0.00	620,000.00
Indirect beneficiaries (Number)		0.00	9,500,000.00
Increased resilience			
Land area under sustainable land management including climate-smart practices because of project support (Hectare(Ha))		0.00	153,000.00
Refugee beneficiaries (Hectare(Ha))		0.00	3,000.00

Indicator Name	PBC	Baseline	End Target
Host Community beneficiaries (Hectare(Ha))		0.00	15,000.00
National beneficiaries (Hectare(Ha))		0.00	135,000.00
Increased productivity			
Percentage increase in yields of selected value chains in metric tons per production unit (Percentage)		0.00	40.00
Crop value chain (Percentage)		0.00	40.00
Livestock value chain (Percentage)		0.00	40.00
Fisheries value chain (Percentage)		0.00	46.00
Increased marketed access			
Percentage increase in volumes (in Metric Tons) of agricultural products of selected value chains marketed by targeted beneficiaries (Percentage)		0.00	50.00
Refugee Beneficiaries Crop Value Chains (Percentage)		0.00	30.00
Host Community Beneficiaries Crop Value Chains (Percentage)		0.00	50.00
National Beneficiaries Crop Value Chains (Percentage)		0.00	40.00
Refugee Beneficiaries Livestock value chain (Percentage)		0.00	30.00
Host Community Beneficiaries Livestock Value Chain (Percentage)		0.00	50.00
National Beneficiaries Livestock Value Chains (Percentage)		0.00	40.00
Refugee Beneficiaries Fisheries value chain (Percentage)		0.00	30.00
Host Community beneficiaries Fisheries Value Chain (Percentage)		0.00	50.00

Indicator Name	PBC	Baseline	End Target
National Beneficiaries Fisheries Value Chains (Percentage)		0.00	40.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	End Target
1. Strengthening Climate-Smart Agricultural Research, Seed and Agro-Climatic Information Systems			
Competitive Research Grants awarded and completed (Number)		0.00	70.00
Adaptive Research Grants (Number)		0.00	35.00
Applied Research Grants (Number)		0.00	35.00
Community Seed Production Groups (CSPG) supported to source foundation seed and produce seed (Number)		0.00	450.00
Crop Seed Production Groups (Number)		0.00	200.00
Livestock Seed Production Group (Number)		0.00	150.00
Fisheries Seed Production Groups (Number)		0.00	100.00
Weather stations rehabilitated or established with project support (Number)		0.00	60.00
Agro-climatic and climate smart digital tools established or developed to facilitate access to early warning, agroclimatic, pest and disease information (Number)		0.00	10.00
System for monitoring, reporting and verifying (MRV) emission reduction established (Yes/No)		No	Yes
Project Implementing and extension staff trained in customized CSA technologies and innovations (Number)		0.00	1,100.00
Participatory stakeholders engagements conducted in 9 Zones		0.00	90.00

Indicator Name	PBC	Baseline	End Target
(Number)			
Resilient agricultural production infrastructure for technology development and dissemination refurbished or established with project support (Number)		0.00	100.00
2. Promoting Adoption of Climate-Smart Agriculture Practices and Value Chains			
Community micro-level sub-projects supported for production related activities (Number)		0.00	25,200.00
Refugee Beneficiary groups (Number)		0.00	1,050.00
Host Community beneficiary groups (Number)		0.00	2,450.00
National beneficiary groups (Number)		0.00	21,700.00
Community level sub-projects still operational one year after receipt of funds (Percentage)		0.00	60.00
Refugee beneficiaries (Percentage)		0.00	40.00
Host community beneficiaries (Percentage)		0.00	60.00
National beneficiaries (Percentage)		0.00	75.00
District Level grants provided for investments in sub-projects at the sub-county or district to support improved productivity (Number)		0.00	1,300.00
Refugee hosting districts (Number)		0.00	270.00
Non-Refugee districts (Number)		0.00	1,030.00
District level sub-projects operational two years after receipt of funds (Percentage)		0.00	60.00
Refugee hosting districts (Percentage)		0.00	60.00
Non-refugee districts (Percentage)		0.00	75.00
Beneficiaries of LIPW and On-farm Incentive Fund (SLM) (Number)		0.00	750,000.00

Indicator Name	PBC	Baseline	End Target
Refugee beneficiaries (Number)		0.00	30,000.00
Host Community beneficiaries (Number)		0.00	70,000.00
National beneficiaries (Number)		0.00	650,000.00
Beneficiaries of LIPW and On-Farm Incentive Funds (SLM) that are women (Percentage)		0.00	50.00
Share of households with Medium Household Dietary Diversity Score in refugee settlements (Percentage)		55.00	65.00
Percentage of which are women (Percentage)		54.00	70.00
Beneficiaries that feel project investments reflected their needs (Percentage)		0.00	70.00
Female beneficiaries that feel project investments reflected their needs (Percentage)		0.00	70.00
Refugee beneficiaries that feel project investments reflected their needs (Percentage)		0.00	70.00
Host community beneficiaries that feel that project investments reflected their needs (Percentage)		0.00	70.00
National beneficiaries that feel project investments reflected their needs (Percentage)		0.00	70.00
3. Market Development and Linkages for Selected Value Chains			
Farmer based organizations benefitting from the enterprise development funding for value addition, processing and post-harvest handling (Number)		0.00	1,200.00
Female Farmer based organizations benefitting from the enterprise development funding for value addition, processing and post harvest handling (Percentage)		0.00	25.00
Enterprise development funded groups operational two years after receipt of funds (Percentage)		0.00	60.00
Refugee Beneficiaries (Percentage)		0.00	40.00

Indicator Name	PBC	Baseline	End Target
Host Community Beneficiaries (Percentage)		0.00	60.00
National Beneficiaries (Percentage)		0.00	75.00
Resilient agricultural value addition infrastructures or facilities rehabilitated or established or acquired with project support (Number)		0.00	210.00
Productive Alliances established and functional (Number)		0.00	200.00
Beneficiaries of skills development activities supported by the project (Number)		0.00	2,000.00
Refugee Beneficiaries (Number)		0.00	525.00
Host Community Beneficiaries (Number)		0.00	525.00
National Beneficiaries (Number)		0.00	950.00
Beneficiaries of skills development activities supported by the project that are women (Percentage)		0.00	40.00
Road chokes fixed and supported by the project (Kilometers)		0.00	975.00
4. Project Coordination, Management, Monitoring, Evaluation and Learning			
Share of project indicators that are consistently/regularly reported and updadated (Percentage)		0.00	100.00
Grievances registered related to delivery of project benefits addressed (Percentage)		0.00	90.00

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Project beneficiaries	This will assess the number of beneficiaries that are benefiting from the investments supported by the Project (760,000 x 5.1) (No. of hh x average hh size))	Bi-annually, MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Direct project beneficiaries (households)	Direct beneficiary households who directly benefits from an intervention.	Bi-annually, MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Female beneficiaries	Percentage of the beneficiaries are female	Bi-annually, MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Refugee beneficiaries (households)	Direct beneficiary refugee households who directly benefits from project interventions.	Bi-annually, MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Host Community* beneficiaries (households)	Hosting community beneficiaries refers to national households in Refugee Hosting Districts who directly benefit from an intervention.	Bi-annually, MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU

National* beneficiaries (households)	National beneficiaries refer to beneficiaries from districts that are not RHDs, who directly benefits from an intervention.	Bi-annually, MTR, EOP	Project MIS	HH surveys - evaluations- beneficiaries assessment	NPCU
Indirect beneficiaries	This refers to other individuals, households or groups who are not the direct target of project interventions and activities but indirectly benefit from project activities. The number is based on (household X household size)	Annually	Annual project surveys	Surveys	NPCU
Land area under sustainable land management including climate-smart practices because of project support	This will assess the increased hectare developed for sustainable land management practices	MTR, EOP	Project MIS	HH- evaluation	NPCU
Refugee beneficiaries	This will assess the increased hectare developed for sustainable land management practices in the refugee beneficiaries' communities	Bi-annually, MTR,EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Host Community beneficiaries	This will assess the increased hectare developed for sustainable land management practices in the host communities	Bi-annually, MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
National beneficiaries	This will assess the increased hectare	Bi-annually, MTR, EOP	Project MIS	HH surveys - evaluations -	NPCU

	developed for sustainable land management practices in the national beneficiaries' communities			beneficiaries assessment	
Percentage increase in yields of selected value chains in metric tons per production unit	This will assess percentage increase in productivity of selected value chains in MT per production unit.	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Crop value chain	This will assess percentage increase in crop productivity of selected value chains in MT per Hectare	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Livestock value chain	This will assess percentage increase in livestock productivity of selected value chains in MT per Hectare	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Fisheries value chain	This will assess percentage increase in fisheries productivity of selected value chains in MT per Hectare	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Percentage increase in volumes (in Metric Tons) of agricultural products of selected value chains marketed by targeted beneficiaries	This will assess percentage increase in volumes (in Metric Tons) sold by beneficiaries of selected value chains per production unit	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Refugee Beneficiaries Crop Value Chains	This will assess percentage increase in volumes sold by refugee beneficiaries of selected crop value chains in	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU

	MT per Hectare				
Host Community Beneficiaries Crop Value Chains	This will assess increase in volumes sold by host beneficiaries of selected crop value chains in MT per Hectare.	MTR, EOP	Project MIS	H/H Survey - Beneficiaries Assessment	NPCU
National Beneficiaries Crop Value Chains	This will assess increase in volumes sold by non-refugee beneficiaries of selected crop value chains in MT per Hectare	MTR, EOP	Project MIS	H/H Survey - Beneficiaries Assessment	NPCU
Refugee Beneficiaries Livestock value chain	This will assess percentage increase in volumes sold by refugee beneficiaries of selected livestock value chains	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Host Community Beneficiaries Livestock Value Chain	This will assess the increase in volumes sold by host beneficiaries of selected livestock value chains	MTR, EOP	Project MIS	H/H Survey - Beneficiaries Assessment	NPCU
National Beneficiaries Livestock Value Chains	This will assess increase in volumes sold by national beneficiaries of selected livestock value chains	MTR, EOP	Project MIS	H/H survey - Beneficiaries Assessment	NPCU
Refugee Beneficiaries Fisheries value chain	This will assess percentage increase in volumes sold by refugee beneficiaries of fish value chain	MTR, EOP	Project MIS	H/H survey - beneficiaries assessment	NPCU
Host Community beneficiaries Fisheries Value Chain	This will assess increase in volumes sold by host community beneficiaries of	MTR, EOP	Project MIS	H/H survey - Beneficiaries Assessment	NPCU

	selected fisheries value chain				
National Beneficiaries Fisheries Value Chains	This will assess in crease in volumes sold by national beneficiaries of selected fisheries value chains	MTR, EOP	Project MIS	H/H survey - Beneficiaries Assessment	NPCU

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Competitive Research Grants awarded and completed	This will assess or track the number of the on-farm trials and other adaptive research undertaken with support of the project	Yearly starting year 2	Progress Report, Evaluation	Project MIS	NPCU
Adaptive Research Grants	This will track the number of adaptive research grants awarded and completed	Bi-annually	Project Reports	Project MIS	NPCU
Applied Research Grants	This will track the number of applied research grants awarded and completed.	Bi-annually	Project Reports	Project MIS	NPCU
Community Seed Production Groups (CSPG) supported to source foundation seed and produce seed	This will track the number of community seed production groups supported to source foundation seed and produce seed	Biannually	Project Reports	Project MIS	NPCU
Crop Seed Production Groups	This will track the number of Community seed production groups supported to source foundation seed and	Biannually	Project Reports	Project MIS	NPCU

	produce seed for crops				
Livestock Seed Production Group	This will track the number of community seed production groups suported to source foundation seed and produce seed for livestock (breeds)	Biannually	Project Reports	Project MIS	NPCU
Fisheries Seed Production Groups	This will track the number of community seed production groups supported to source foundation seed and produce seed for fisheries	Biannually	Project Reports	Project MIS	NPCU
Weather stations rehabilitated or established with project support	This will assess or track the number of agro-climatic and climate smart digital tools established or developed to facilitate access to early warning, agroclimatic, pest and disease information	Biannually.	Progress report, evaluation	Project MIS	NPCU
Agro-climatic and climate smart digital tools established or developed to facilitate access to early warning, agroclimatic, pest and disease information	This will track the number of agro-climatic and climate smart digital tools established or developed to facilitate access to early warning agro-climatic, pest and disease information.	Biannually.	Project progress reports	Project MIS	NPCU
System for monitoring, reporting and verifying (MRV) emission reduction established	This will determine whether system for monitoring, reporting and verifying (MRV) emission reduction has been established or not.	Yearly after one year.	Project Progress Reports	Project MIS	NPCU

Project Implementing and extension staff trained in customized CSA technologies and innovations	This will track the number of project implementing and extension staff trained in tailor made technologies	Biannually	Project progress reports	Project MIS	NPCU
Participatory stakeholders engagements conducted in 9 Zones	This will track the number of participatory stakeholders' engagements conducted in 9 zones.	Biannually	Project progress report	Project MIS	NPCU
Resilient agricultural production infrastructure for technology development and dissemination refurbished or established with project support	This will track the number of resilient agricultural production infrastructures for technology development and dissemination refurbished or established with project support	Biannually	Project Progress Reports	Project MIS	NPCU
Community micro-level sub-projects supported for production related activities	This will track the number of community micro-level sub-projects supported for production related activities.	Biannually	Project Reports	Project MIS	NPCU
Refugee Beneficiary groups	This will track the number of refugee beneficiary groups supported with micro-level sub-projects for production related activities	Biannually	Project Reports	Project MIS	NPCU
Host Community beneficiary groups	This will track the number of host community groups that have been supported with micro-level sub-projects for production related activities	Biannually	Project Reports	Project MIS	NPCU
National beneficiary groups	This will track the number of beneficiary groups from	Biannually	Project Reports	Project MIS	NPCU

	non-RHDs supported with micro-level sub-projects for production related activities				
Community level sub-projects still operational one year after receipt of funds	This will track the percentage of community micro-level sub-projects still operational one year after receiving funding	Biannually	Project Reports	Project MIS	NPCU
Refugee beneficiaries	This will track the percentage of refugee micro-level sub-projects that are still operational one year after receiving funding	Biannually	Project Reports	Project MIS	NPCU
Host community beneficiaries	This will track the host community micro-level sub-projects that are still operational one year after receiving funding	Biannually	Project Reports	Project MIS	NPCU
National beneficiaries	This will track the percentage of beneficiaries from non-RHDs micro-level sub-projects that are still operational one year after receiving funding	Biannually	Project Reports	Project MIS	NPCU
District Level grants provided for investments in sub-projects at the sub-county or district to support improved productivity	This will track the number of district level grants provided for investments in sub-projects beyond the farmer group of community level, at the sub-county or district to support improved productivity	Biannually	Project Reports	Project MIS	NPCU

Refugee hosting districts	this will track the number of district level grants in refugee hosting districts provided for investment in sub-projects beyond the farmer group at community level, at the sub-county or district to support improved productivity	Biannually	Project Reports	Project MIS	NPCU
Non-Refugee districts	This will track the number of district level grants provided in non-refugee districts for investment in sub-projects beyond the farmer group at community level, at sub-county or district to support improved productivity	Biannually	Project Reports	Project MIS	NPCU
District level sub-projects operational two years after receipt of funds	This will track the percentage of district level sub-projects operational two years after receiving funding	Biannually	Project Reports	Project MIS	NPCU
Refugee hosting districts	This will track the percentage of sub-projects in refugee hosting districts that are still operational two years after receiving funding	biannually	Project Reports	Project MIS	NPCU
Non-refugee districts	This will track the percentage of district sub-projects in non-RHDs that are still operational two years after receiving funding	Biannually	Project Reports	Project MIS	NPCU

Beneficiaries of LIPW and On-farm Incentive Fund (SLM)	This will track the number of beneficiaries of LIPW and SLM Incentive Fund	Biannually	Project Reports	Project MIS	NPCU
Refugee beneficiaries	This will track the number of refugee beneficiaries of LIPW and SLM Incentive funds	Biannually	Project Reports	Project MIS	NPCU
Host Community beneficiaries	The number of host community beneficiaries of LIPW and SLM Incentive funds	Biannually	Project Reports	Project MIS	NPCU
National beneficiaries	The number of National beneficiaries of LIPW and SLM Incentive Funds	Biannually	Project Reports	Project MIS	NPCU
Beneficiaries of LIPW and On-Farm Incentive Funds (SLM) that are women	This will track the percentage of women beneficiaries of LIPW and On-Farm Incentive Funds (SLM) across the project areas.	Bi-annually	Project Reports	Project MIS	NPCU
Share of households with Medium Household Dietary Diversity Score in refugee settlements	This will track the percentage of households with medium household dietary diversity score in refugee settlements	Biannually	Project Reports	H/H survey-beneficiaries assessment	NPCU
Percentage of which are women	This will track the percentage of female households with the medium household diversity score	Biannually	Project Reports	H/H surveys - beneficiaries assessment	NPCU
Beneficiaries that feel project investments reflected their needs	This will measure the extent to which decisions about the	Biannually	Project Reports	H/H Surveys, beneficiaries'	NPCU

	project reflected community preferences in a consistent manner.			assessment	
Female beneficiaries that feel project investments reflected their needs	This will track the percentage of female beneficiaries that feel project investments reflected their needs	Biannually	Project Reports	H/H survey - beneficiaries assessment	NPCU
Refugee beneficiaries that feel project investments reflected their needs	This will track the percentage of refugee beneficiaries that feel the project investments reflected their needs	Biannually	Project Reports	H/H survey - beneficiaries assessment	NPCU
Host community beneficiaries that feel that project investments reflected their needs	This will track the percentage of host community beneficiaries that feel project investments reflected their needs	Biannually	Project Reports	H/H survey- beneficiaries assessment	NPCU
National beneficiaries that feel project investments reflected their needs	This will track national beneficiaries who feel that the project investments reflected their needs	Biannually	Project Reports	H/H survey - beneficiaries assessment	NPCU
Farmer based organizations benefitting from the enterprise development funding for value addition, processing and post-harvest handling	This will track the number of farmer based organizations benefitting from the enterprise development funding for value addition, processing and post harvest handling	Biannually	Project Reports	Project MIS	NPCU
Female Farmer based organizations benefitting from the enterprise	This will track the percentage of female based	Biannually	Project Reports	Project MIS	NPCU

development funding for value addition, processing and post harvest handling	farmer organizations benefitting from the enterprise development funding for value addition, process and post harvest handling				
Enterprise development funded groups operational two years after receipt of funds	This will track the percentage of enterprise development funded groups operational two years after receiving funds	Biannually	Project Reports	Survey	NPCU
Refugee Beneficiaries	This will track the percentage of refugee enterprise development funded groups that are still operational two years after receiving funding	Biannually	Project Reports	Survey	NPCU
Host Community Beneficiaries	This will track the percentage of host community enterprise development funded groups operational two years after receiving funding	Biannually	Project Reports	Survey	NPCU
National Beneficiaries	This will track non-RHDs enterprise development funded groups operational two years after receiving funding	Biannually	Project Reports	Survey	NPCU
Resilient agricultural value addition infrastructures or facilities rehabilitated or established or acquired with project support	This will track the number of resilient agricultural value addition infrastructures or facilities rehabilitated or	Biannually	Project Reports	Project MIS	NPCU

	established or acquired with project support.				
Productive Alliances established and functional	This will track the number of productive alliances established and functional	Yearly after one year	Project progress reports	Project MIS	NPCU
Beneficiaries of skills development activities supported by the project	This will track the number of beneficiaries of skills development activities supported by the project	Biannually	Project Progress reports	Project MIS	NPCU
Refugee Beneficiaries	This will track the number of refugee beneficiaries of skills development activities supported by the project	Biannually	Project progress reports	Project MIS	NPCU
Host Community Beneficiaries	This will track the number of host community beneficiaries of skills development supported by the project	Biannually	Project progress reports	Project MIS	NPCU
National Beneficiaries	This will track the number of beneficiaries of skills development activities supported by the project districts that are not Refugee Hosting Districts.	Biannually	Project progress reports	Project MIS	NPCU
Beneficiaries of skills development activities supported by the project that are women	This will track the percentage of beneficiaries of skills development activities supported by the project that are women	Biannually	Project Reports	Project MIS	NPCU
Road chokes fixed and supported by the project	This will track the number of kilometers of road chokes	Biannually	Project progress	Project MIS	NPCU

	fixed and supported by the project		reports		
Share of project indicators that are consistently/regularly reported and updadated	This will track the share of the project indicators that are consistently/regularly reported and updated (percentage)	Bi-annually	Evaluation, Progress Report	Project MIS	NPCU
Grievances registered related to delivery of project benefits addressed	This will track the share of grievances registered related to delivery of project benefits addressed	Bi-annually	Evaluation, Progress Report	Project MIS	NPCU

ANNEX 1: Implementation Arrangements and Support Plan

A. Institutional and Implementation Arrangements

1. The Government will mainstream the implementation of the UCSATP project into existing structures at national, regional and local levels. Table 1.1 outlines the institutional structure of the project and the roles and responsibilities at various levels of implementation.

Table 1.1: UCSATP Institutional Structure Roles and Responsibilities

Institutional Structure	Role	Responsibilities
NATIONAL LEVEL		
National Project Steering Committee (NPSC)	• Oversight and guidance	• Provide strategic guidance, oversight and policy guidance. • Coordinate policy actions to facilitate effective implementation. • Approve project annual workplan and budget.
National Project Coordination Unit (NPCU)	• Coordination, Management, and Implementation	• coordination, monitoring, and quality assurance of project activities. • day-to-day implementation of all project activities. • Reporting of project activities to NPSC. • Prepare consolidated workplan and budget for all project activities. • Submit consolidated workplan and budget to NPSC for approval.
National Agriculture Research Organization Secretariat (NARO Sec)	• Planning and implementation of project activities • Administration of CRG	• Prepare workplan and budget for submission to the NPCU. • Initiation of procurement processes to submit to NPCU. • Implementation of activities agreed under the annual workplan and budget. • Issue calls for proposals. • Evaluate and select proposals for financing. • Submit successful proposals to NPCU for approval. • Prepare workplan and budget for research grant activities. • Submit workplan and budget to NPCU for approval.
National Animal Genetic Resources Center and Data Bank (NAGRC&DB)	• Planning and implementation of project activities	• Prepare and submit workplans and budgets for the NAGRC&DB-specific investments to the NPCU for approval. • Implementation of planned activities. • Initiate requests for procurement. • Develop technical specifications for procurement. • Participate in the evaluation of procurement.

Institutional Structure	Role	Responsibilities
		• Submit quarterly activity reports and accountability reports to the NPCU. • Support NARO in the implementation of livestock projects.
Uganda National Meteorological Authority (UNMA)	• Planning and implementation of project activities	• Develop workplans and budgets for NPCU approval. • Develop procurement specifications and requirements. • Initiate activity and procurement requests. • Undertake activities, report and account. • Participate in procurement of required facilities and materials • Build capacity of stakeholders in the interpretation and use of weather information. • Collect, generate, interpret and disseminate climate/weather data and information. • Submit quarterly activity reports and accountability reports to the NPCU.
National Technical Advisory Committee (NTAC)	• Technical Advisory	• Provide technical guidance to NPCU on project implementation. • Review and approve selected CRG proposals for financing.
REGIONAL/ZONAL LEVEL		
Zonal Technical Committee (ZTC)	• Zonal/Regional Coordination	• Support NPCU with consolidation, monitoring, and reporting of project activities at the regional/zonal level. • Support adaptive research TIMPs dissemination activities. • Strengthen research, development, extension, private sector linkage continuum. • Convene Multi-Stakeholder Coordination Platform for planning, dialogue and priority setting among stakeholders for selected investments in the regions/zones in an integrated manner.
DISTRICT LEVEL		
District Project Implementation Committee	• District Coordination and implementation • Coordination with OPM Department of Refugees, and Camp Commandant of refugee settlements	• Selection of district CSA sub-projects and preparation of investment plans and budgets. • Consolidation of priority district sub-projects and community micro projects and processing their approval by District Council. • Identification and establishment of farmer field schools in consultation with sub-county extension staff and farmer groups. • Monitoring, accounting and reporting on district project activities. • Facilitation of research, farmer, extension linkages.
SUB-COUNTY/PARISH LEVEL		

Institutional Structure	Role	Responsibilities
Sub-County Technical Planning Committee	• Sub-county coordination	• Support and guide planning and priority setting process of farmer organizations. • Reviewing, evaluating and consolidating workplans and budgets for micro-projects submitted by farmer organizations.
Farmer Organizations (FOs)	• Implementation	• Identify and prioritize community investments. • Prepare investment Plans and budgets for Community CSA micro-projects. • Implement community development plans and CSA micro-projects. • Undertake community participatory monitoring and reporting. • Ensure compliance to good agricultural practices. • Undertake farmer organization activities including aggregating and bulk agricultural produce/inputs for the market, group savings and lending to members. • Mobilization of new members with support from community-based facilitators and extension staff, among other activities.

Detailed FM Assessment

Planning and Budgeting Arrangements

2. The project will be implemented using the GoU-established procedures and structures. Budgeting for the project will be in line with the Government budgeting cycle. The project will follow the Government planning and budgeting procedures documented in the Government's Treasury Accounting Instructions, 2003 (currently under revision in line with the PFM Act, 2015 as amended, and PFM Regulations 2016). These arrangements were appraised and found to be adequate for the project implementation.

Accounting Arrangements

3. **Policies and procedures.** Projects in MAAIF will use the donor finance IFMS of the Government for the management of project financial transactions and disbursements. The assessment is therefore satisfied that the GoU accounting policies and procedures supplemented with IDA FM guidelines, as specified in the Financing Agreement and PIM that will be used under the project. The NPCU team will be trained on the guidelines before and during project implementation. The financial reports of the project will be prepared on a cash basis in accordance with International Public Sector Accounting Standards. The key weaknesses assessed are weak implementation of rules and regulations on management of staff and activity advances, delayed processing of payments to implementing entities and districts /Zonal Coordination Offices, and accountability challenges highlighted in the audit reports.

4. **Books of accounts.** The books of accounts to be maintained by MAAIF, specifically for the project, will be set up and include a cash book, ledgers, journal vouchers, a fixed asset register, an advances ledger, and contracts register(s) among others.

5. **Staffing.** The accounts sections for MAAIF are fully staffed to manage the accounting function. At MAAIF, the Accounts section is headed by the Head of Accounts who is deputized by a Senior Accountant. Both staff are qualified Certified Public Accountants (CPAs). Below the Senior Accountant are three accountants with bachelor's degrees and partial professional qualification (CPA). MAAIF also has five accounts assistants with diplomas/degree qualifications. However, given the current workload, there will be need for MAAIF to recruit project-specific staff to support the accounting function. From experience with ongoing projects, it is envisaged that an FMS and financial management assistant (FMA) will be recruited within three months of effectiveness to support the mainstream accounting staff designated to the project. An additional FMA may be recruited depending on the scale of activities. The FMS will be supervised by the Assistant Commissioner Accounts.

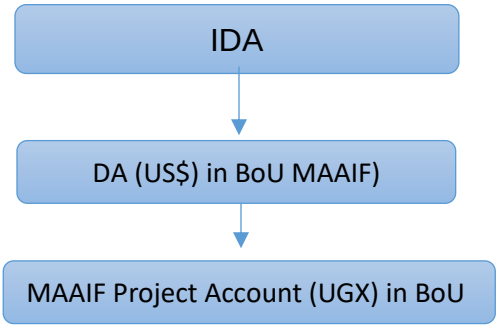
6. FM training will be offered to the accountants, and other staff assigned to the project within six months of effectiveness. Also, there is need to train other staff involved in the project implementation on the World Bank FM guidelines and procedures.

7. **Information system.** MAAIF currently uses the Integrated Financial Management Information System (IFMIS) in management of the accounting and reporting functions for the Government. The project will be expected to be managed through the upgraded IFMIS with the project module for new projects as agreed and directed by MoFPED. This has however presented the risk of slow implementation of the new project module under IFMIS due to some technical challenges that are being addressed by MoFPED.

Funds Flow and Disbursements Arrangements

8. **Bank accounts.** The following bank accounts authorized by MoFPED will be maintained by MAAIF in the Bank of Uganda (BoU) for implementing the project: (a) Designated Account (DA) denominated in US dollars where disbursements from IDA will be deposited and (b) project account, denominated in the local currency. Transfers from the DA (for payment of transactions in local currency) will be deposited into this account in accordance with the project objectives, work plans, and budgets. Transfers to other IAs and lower-level implementation points such as district local governments will follow the established Government systems as provided for in the Government's treasury accounting instructions, 2003 (currently under revision in line with the new PFM Act, 2015 and PFM Regulations 2016).

Figure 1.1. Funds Flow Chart



9. The signatory for the project account will be in accordance with the treasury accounting instructions. Payments will be approved and signed by the accounting officer as the principal signatory and the person designated by the Accountant General.

10. **Disbursement arrangements.** MAAIF will use the report-based disbursement where cash flow forecasts based on work plans are submitted for a period of six months every quarterly period based on the IFRs. The IFRs will be submitted on a quarterly basis. MAAIF will be expected to submit, within six months after effectiveness, a six months' cash flow forecast based on its work plan using the report-based method of disbursement to IDA for disbursement. IDA will then deposit funds into the DAs, and these funds will be used by the borrower to finance IDA's share of program expenditures under the proposed credit.

11. MAAIF will have the following disbursement methods during implementation of the project: advances, reimbursements, direct payments, and special commitments. If ineligible expenditures are found to have been made from the DA, the borrower will be obligated to refund the same. If the DA remains inactive for more than six months without any justifiable reason, the borrower may be requested to refund to IDA amounts advanced to the DA.

12. IDA will have the right, as reflected in the Financing Agreement, to suspend disbursement of the funds if reporting requirements are not complied with.

Financial Reporting Arrangements

13. MAAIF will submit quarterly IFRs in acceptable formats to the World Bank within 45 days after the end of each calendar quarter. The report will include;

(a) A statement of sources and uses of funds and a statement of uses of funds by project activity/component. In addition to the above reports, MAAIF will submit to the World Bank (a) Designated Account Activity Statement and (b) DA and Project Account Bank Statements.

(b) Summary statement of DA expenditures for contracts subject to prior review.

(c) Summary Statement of DA Expenditures for contracts not subject to prior review. The annual financial statements should be prepared in accordance with International Public Sector Accounting Standards (which, among others, includes the application of the cash basis of recognition of transactions).

Internal Controls (Including Internal Audit) Arrangements

14. The assessment also reviewed the internal controls as documented in the PFM Act, 2015 as amended, the PFM Regulations 2016, Treasury Accounting Instructions 2003 (currently being updated in line with new laws and regulations), Local Government Financial and Accounting Manual 2007, Local Government (Financial and Accounting) Regulations 2007 (currently being updated), and the provisions of the PIM that will include implementation requirements specific to the World Bank-financed projects and noted that they are adequate for the project.

15. MAAIF has qualified and experienced internal auditors. At MAAIF, the Head Internal Audit, Principal Internal Auditor, and Senior Internal Auditor are all qualified CPAs. The unit also has three internal auditors, making a total staffing of six auditors. Additionally, each of the 16 PARIs has an internal auditor. Some of these internal auditors are qualified accountants with CPAs; others possess a degree in accounting and are pursuing professional courses. The Internal Audit Units will incorporate the project into the internal audit work plans. However, the number of internal auditors may not be adequate to fully support the project in addition to the current workload of MAAIF and various projects. The key risk assessed included inadequate budgetary provision under GoU funding, nonadherence to audit work plans (particularly given the limited number of staff), failure to submit timely reports as required under the Financing Agreement due to inadequate staffing (given the overload on other projects and ministry work) and delays by management to respond to audit findings or implement recommendations. The project will provide resources to facilitate the internal audit reviews at the ministry and districts when need arises. MAAIF will share the internal audit reports with the World Bank semiannually.

External Auditing Arrangements

16. The Auditor General is primarily responsible for auditing of all government projects. The Office of the Auditor General has been assessed and found to meet the World Bank standards. The only risk is related to delayed submission of the audit reports. In instances where the audit is subcontracted to a firm of private auditors, with the final report being issued by the Auditor General, the private firm to be subcontracted should be acceptable to the World Bank. In case the audit is subcontracted to a firm of private auditors, IDA funding may be used to pay the cost of the audit. The audits shall be conducted in accordance with International Standards on Auditing. The appropriate ToR for the external auditor has been agreed between the World Bank and MAAIF. The ministry will submit the project audit reports together with the Management Letters to the World Bank within six months after the end of each financial year.

Financial Management Action Plan

17. The action plan in **Error! Reference source not found.** indicates the actions to be taken for the project to strengthen its FM system and the dates that they are due to be completed.

Table 1.2. Financial Management Action Plan

No.	Action	Date Due	Responsible Entity
1	Designation of mainstream accountant	By effectiveness	MAAIF
2	Recruitment of FM officers	Within 3 months after effectiveness	MAAIF
3	Recruitment of a Grant Management Officer	Within 3 months after effectiveness	MAAIF
4	Opening of project bank accounts	After signing of financing agreement	MAAIF
5	Client Connection set up	After effectiveness	World Bank
6	Training of project accounting, auditing, and other project staff on FM guidelines and procedures	Within 6 months after effectiveness	MAAIF

No.	Action	Date Due	Responsible Entity
7	Agree on reporting arrangements—templates, formats, and so on.	Before effectiveness	World Bank/ MAAIF

Supervision Arrangements

18. The World Bank will conduct FM supervision missions depending on the project progress, and the mission's objectives will include that of ensuring strong FM systems are maintained for the project throughout its life. A review will be carried out regularly to ensure that expenditures incurred by the project remain eligible for funding. The implementation status and results report will include an FM rating for the project.

Risk Assessment and Mitigation

19. Table **1.3**1.3 identifies the key risks that the project management may face in achieving these objectives and provides a basis for determining how management should address these risks.

Table 1.3. FM Risk Assessment Matrix

Risk Description	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Risk Rating after Mitigation
Country level - Recent fraud cases in the Central Government and the 2016 Public Expenditure and Financial Accountability report show weaknesses in government PFM systems.	**S**	Weaknesses such as weak accounting capacity, budget credibility, payroll rules, and procurement compliance are being mitigated under a government PFM reform program. New legislation is being crafted to freeze and confiscate property acquired fraudulently.	**S**
Entity level - Line ministry could delay in submitting relevant reports due to weak capacity.	**H**	MAAIF management will be enhanced by recruiting contracted Project Coordination Unit (PCU) personnel to boost capacity. NARO, NAGRC&DB, and UNMA will assign staff to the project to ensure relevant reports are submitted accurately and on time. The World Bank will conduct regular FM reviews to ensure compliance.	**S**

Risk Description	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Risk Rating after Mitigation
Project level - This is a complex project implemented by MAAIF, in coordination with other agencies, local governments, and communities.	**H**	This will be mitigated by agreed accountability procedures issued by MAAIF to participating agencies and districts, spelling out duties and responsibilities together with staff specifically assigned to the project. MAAIF PCU will ensure proper coordination of the project.	**S**
Although all World Bank-funded projects are captured under the annual national budget, some IAs may not have access to IFMS accounting system.	**H**	MAAIF will use the project's module within the Integrated Financial Management System (IFMS) to be used for project accounting. However, the financial reports will be prepared manually using Microsoft Excel spreadsheet since they cannot be generated from the accounting system. Manual systems are prone to errors of omission or commission.	**S**
Internal control - Inability to follow up reported internal control weaknesses.	**S**	MAAIF and participating agencies have qualified and experienced internal auditors who will include the project within their workplans to ensure the internal audit unit carries out its role within the project according to their Internal Audit Charter. This will also be spelled out in the project manual. The World Bank will conduct regular FM reviews to ensure compliance. The risk envisaged is the inadequate staffing levels in the internal audit unit (both at MAAIF and the participating district) to conduct regular review of project activities. The risk is however mitigated by provision of a budget for internal auditors at MAAIF to conduct audits for the project and share reports with the World Bank.	**S**

Risk Description	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Risk Rating after Mitigation
Financial reporting - Financial information may be late and unreliable for the preparation of required reports.	**H**	MAAIF has to produce standard formats of unaudited interim financial reports (IFRs) that will be used for UCSATP. Strict compliance with the quarterly reporting schedule will be emphasized. The IFR formats have been agreed with the World Bank.	**S**
External audit - Late preparation of financial statements leading to delayed audit reports	**S**	Timely engagement of Office of the Auditor General (OAG) or independent auditors will be emphasized for annual project audits with acceptable ToR.	**M**
	High	**Overall Risk Rating**	**Substantial**

Note: H = High; S = Substantial; M = Moderate; and L = Low.

20. The overall residual risk is Substantial upon implementing mitigating measures and meeting the conditions in the risk assessment and mitigation table above.

Conclusion

21. The overall residual risk is Substantial upon implementing mitigating measures. The assessment of the project's FM arrangements, as summarized above, does indicate that the arrangements satisfy the World Bank's minimum requirements under OP/BP 10.02. The system can adequately provide, with reasonable assurance, accurate and timely information on the status of the project as required by IDA.

Procurement

22. The key procurements to be undertaken for the project are as follows:

(a) **Procurement of works.** Construction and refurbishment of infrastructure for livestock, fish, hatcheries, and seed storage facilities.

(b) **Procurement of consultancy services.** TA for market information services and capacity building for farmer groups.

(c) **Procurement of goods.** Procurement of mobile laboratories and equipment, field animal disease surveillance and investigation specialized transport, fish feed mill, tractors, and upgrade of information system.

23. **Use of national procurement procedures.** National procurement procedures shall only apply if the requirements as required by paragraph 5.3 of the Procurement Regulations[29] are met. The PPDA Guideline on 'reservation scheme to promote local content in public procurement' and the Buy Uganda Build Uganda (BUBU) policy shall not apply. Procurements conducted under the project shall permit universal eligibility.

24. **Standard Procurement Documents (SPDs).** The World Bank's SPDs shall be used for procurement of goods, works, and non-consulting services under the Open International market approach. National Bidding Documents as set forth in the Public Procurement and Disposal Act, 2003, may be used under open national competitive bidding as well as for the Request for Quotation method subject to the inclusion of the requirements above. Selection of consultant firms shall use the World Bank's SPDs, in line with procedures described in the Procurement Regulations.

25. **Record keeping and management.** All records pertaining to award of tenders, including bid notification, register pertaining to sale and receipt of bids, bid opening minutes, bid evaluation reports, and all correspondence pertaining to bid evaluation, communication sent to/with the World Bank in the process, bid securities, and approval of invitation/evaluation of bids will be retained by the respective agencies in electronic or hard copy and be uploaded in STEP. Individual procurement files shall be maintained for each contract processed. Adequate secure storage must be provided for documentation.

26. **Disclosure of procurement information** shall follow the requirements of the Procurement Regulations subject to the market approach and selection method. In addition, the IA shall publish an action report on any complaints received on a quarterly basis and upload complaints timely in STEP. Handling of procurement-related complaints will follow the procedures in the Procurement Regulations.

27. **Beneficial ownership disclosure.** All procurements subject to international competition (open or limited) shall require the winning bidder to provide beneficial ownership information. The beneficial owner of a bidder/proposer/consultant is any natural person who ultimately owns or controls the bidder/proposer/consultant by meeting one or more of the conditions specified in the Beneficial Ownership Disclosure Form. Beneficial ownership information will be published as part of the Contract Award Notice.

28. **Procurement of solar panels.** Mandatory enhanced measures for procurement of solar panels include (a) Forced Labor Performance Declaration (past performance), (b) Forced Labor Declaration (commitment to addressing forced labor in the future, including cascading those requirements to their own subcontractors and suppliers), and (c) strengthened contract clause on forced labor.

[29] (a) Open advertising of the procurement opportunity at the national level; (b) the procurement is open to eligible firms from any country; (c) the request for bids/request for proposals document shall require that bidders/proposers submitting bids/proposals present a signed acceptance at the time of bidding, to be incorporated in any resulting contracts, confirming application of, and compliance with, the World Bank's Anti-Corruption Guidelines, including without limitation the World Bank's right to sanction and the World Bank's inspection and audit rights; (d) Procurement Documents include provisions, as agreed with the World Bank, intended to adequately mitigate against environmental, social (including sexual exploitation and abuse and GBV), health, and safety (ESHS) risks and impacts; (e) contracts with an appropriate allocation of responsibilities, risks, and liabilities; (f) publication of contract award information; (g) rights for the World Bank to review procurement documentation and activities; (h) an effective complaints mechanism; and (i) maintenance of records of the procurement process.

29. For the procurement-related complaints, the project will follow the procedure prescribed in the Procurement Regulations (paragraphs 3.26 and 3.31).

30. **Fiduciary oversight by the World Bank (frequency of procurement supervision).** The World Bank shall prior review contracts according to prior-review thresholds set in the PP and carry out procurement post review annually to assess consistency and compliance with the agreed procedures. The World Bank may conduct at any time Independent Procurement Reviews of contracts financed under the credit.

31. **Operating costs.** These will be reflected in the annual work plan submitted to the World Bank but will not be included in the PP nor in STEP. These costs relate to expenditure for maintenance of goods and equipment, fuel, air tickets, workshop venues and materials, communication, and inland travels related to the project, among others. Such items will be procured using the borrower's procurement, financial, and other administrative procedures acceptable to the World Bank. The credit proceeds shall not finance salary top-ups, meeting allowances, sitting allowances, and honoraria to civil/public servants.

32. **Training and workshops.** The project will finance training and workshops, if required, based on an annual training plan and budget which shall be submitted to the World Bank for its prior review and approval. The annual training plan will identify, among other things, (a) the training envisaged, (b) the justification for the training, (c) the personnel to be trained, (d) the duration for such training, and (e) the estimated cost of the training. At the time of the actual training, the request shall be submitted to the World Bank for review and approval. Upon completion of the training, the trainees shall be required to prepare and submit a report on the training received.

33. **Contract management.** Currently, high-risk and high-value procurements have not been identified for increased contract management support. However, if such are identified in the due course of implementation, MAAIF will develop key performance indicators for monitoring actual execution of the contracts by the procurement specialist for the project.

Box 1.1. Summary of PPSD to Inform Project Appraisal Document

The Project Development Objective (PDO) is to increase productivity, market access and resilience of select value chains in the project area and to respond promptly and effectively to an eligible crisis or emergency. The project aims to reach approximately 760,000 households as direct beneficiaries. The procurement profile of the project mainly comprises of acquisition of breeding stock, construction of laboratories, hatcheries and seed multiplication centres for selected ZARDIs and Zonal centres, equipping and refurbishing of existing agriculture production structures and technologies like laboratories, animal quarantine and breeding evaluation centres, and training of artificial insemination technicians and inoculators at each selected sub county level of the target regions. The procurements also include supplies for fleet, tractors and ICT equipment.

All project procurements will be conducted by MAAIF. NARO, NAGRC&DB and UNMA will retain the powers and function of User Departments as provided for in the PPDA Act. MAAIF has experience in implementing IDA funded projects under the Procurement Guidelines. Procurement staff were sensitized on the key changes in the Procurement Regulations as part of project preparation, and will be followed up with further training at different stages of procurement as well as contract management level as need arises. A delegated contracts committee will provide oversight over the project procurement function. If any high high-value, high-risk, or complex contracts are identified in the PP, contract management plans will be prepared. To mitigate procurement challenges identified during the assessment the IA shall ensure that only planned activities are implemented,

thorough due diligence conducted during selection of individual consultants to confirm their qualifications and experience, providers are paid on time, performance of contracts is tracked through use of real-time monitoring and tracking tools.

Table 1.4. Procurement Risks and Mitigation Plan

Risk	Mitigation Measures	Completion Date	Responsible Entity
Delays in preparation of ToR/statement of requirements Delayed processing of procurement activities due to internal bureaucracies	Seek technical expertise to work within defined time frame. Track process delays and devise means to address persistent challenges.	Throughout project implementation	MAAIF, NARO, NAGRC&DB and UNMA
Cost and time overrun due to poor management of contracts	Trainings for staff in contract management; prepare contract risk management, contract management plan and Key Performance Indicators for high value and complex contracts to address cost, time and quality proactively.	Annually	MAAIF, NARO, NAGRC&DB and UNMA
Increase in workload with effectiveness	Recruit a dedicated Senior Procurement Officer knowledgeable in IDA procurement procedures	Before effectiveness	MAAIF
Award of contracts to nonqualified firms	Institute internal quality assurance mechanism to validate cost estimates for major procurements Constitute evaluation teams with competences suitable for need at hand. Conduct due diligence on firms recommended for award. Enforce performance security requirement.	Throughout project implementation	MAAIF
Award of contracts above cost estimates	Validate cost estimates for major procurements.	Before initiation	MAAIF
Failure to complete procurements within planned timelines	Advance procurement in accordance with Procurement Regulations.	Throughout project implementation	MAAIF

Table 1.5. Implementation Support Plan

Time	Focus	Skills Needed	Resource Estimate
Pre-effectiveness	• Support to IAs in the development of the PIM • Advising on preparation of ToR for service providers • Capacity building support for MAAIF, UNMA, NARO, NAGRC&DB • Support for the development of capacity-building strategy for farmer mobilization • Advising on the development of micro-investment plans • Advising on the development of guidelines for Competitive Research Grants, guidelines for matching grants, and guidelines for Incentive Funds • Support in developing a communications strategy/action plan/design of materials • Coordination with international partners ahead of project launch.	Task team	US$275,000 Bank Budget + Complementary trust fund (TF) resources as identified
Year 1	• Finalizing ToR for key contracts including service providers and recruiting the service providers • Advising on establishment of the matching grant scheme and revolving fund • Advising on establishing M&E database and digital platform • Support for design of the impact evaluation and execution of the baseline surveys.	Task team	US$250,000 Bank Budget + complementary TF resources as identified

Time	Focus	Skills Needed	Resource Estimate

Years 2–5	• Monitoring and ongoing support and capacity-building support to IAs in implementation activities
	• Technical support and oversight for the following:
	  ○ Mobilization of farmer groups and other key stakeholders
	  ○ Grant allocation for Competitive Research Grants
	  ○ Uptake of technologies by farmer groups
	  ○ Implementation of matching grant mechanism
	  ○ Supervision of construction works under SLM and LIPW
	  ○ Supervision of operation and maintenance plans
	  ○ Supervision of the implementation of strategic communications plan activities, GRM, monitoring information system, procurement, FM, ESF implementation, and monitoring and evaluation
	• FM, procurement, and ESF supervision and site visits and trainings for communities and local officials as relevant
	• Monitoring of results of the SEP and supporting additional communications and outreach in communities on project implementation
	• Conducting of a mid-term review and an Implementation Completion and Results Report.
		Task team	US$200,000 annually (estimated Bank Budget for supervision) + complementary TF resources as identified

ANNEX 2: Green House Gas (GHG) Analysis and Climate Co-Benefits

1. **Assumptions in the EX-ACT model.** The project proposes several activities that were captured with the GHG accounting tool EX-ACT. The assumptions for this analysis were informed by comprehensive discussions and engagement with the client and various stakeholders during project preparation. The assumptions are aligned to the assumptions of the economic and financial analysis. The project area covers 13 regions in Uganda, namely, Busoga, Bukedi, Elgon, Teso, Lango, Acholi, Karamoja, Ankole, Kigezi, Rwenzori, West Nile, Bunyoro, and Buganda. A total of 70 districts are covered under these regions. The climate and moisture regime is assumed to be warm and wet tropical. The dominant soil type is high-activity clay soils. The project implementation duration is 5 years, and the capitalization period is assumed to be 15 years. Dynamics of implementation are assumed to be linear over the project period. Default Tier 1 coefficients are used throughout the analysis.

2. **The Results of the EX-ACT tool show that the project can be an absolute net carbon sink**, with -221,499 tCO_2eq annually, and a total of -6,644,971 tCO_2eq during the lifetime of the project. This is largely due to the positive effects of perennial crop production, agro-forestry, and positive change in land-use to more sustainable land use management.

Table 2.1. Detailed EX-ACT GHG flux results

		GROSS FLUXES			AVERAGE ANNUAL EMISSIONS		
		In tCO_2-e over the whole period analysis			In tCO_2-e/yr		
PROJECT COMPONENTS		WITHOUT	WITH	BALANCE	WITHOUT	WITH	BALANCE
Land use changes	Deforestation	0	0	0	0	0	0
	Afforestation	0	0	0	0	0	0
	Other land-use	0	-122,108,463	-122,108,463	0	-4,070,282	-4,070,282
Cropland	Annual	26,353,628	20,480,942	-5,872,686	878,454	682,698	-195,756
	Perennial	-88,958,551	-273,553,905	-184,595,353	-2,965,285	-9,118,463	-6,153,178
	Flooded rice	0	0	0	0	0	0
Grasslands & Livestock	Grasslands	0	0	0	0	0	0
	Livestock	306,664,910	579,885,771	273,220,861	10,222,164	19,329,526	9,107,362
Forest mngt.		0	0	0	0	0	0
Inland wetlands		22,585,860	27,761,786	5,175,926	752,862	925,393	172,531
Coastal wetlands		0	0	0	0	0	0
Inputs & Invest.		12,669,638	40,204,381	27,534,743	422,321	1,340,146	917,825
Total emissions, tCO_2-e		**279,315,484**	**272,670,513**	**-6,644,971**	**9,310,516**	**9,089,017**	**-221,499**
Total emissions, tCO_2-e/ha		**144.4**	**141.0**	**-3.4**			
Total emissions, tCO_2-e/ha/yr		**4.8**	**4.7**	**-0.1**			

+ = Source / - = Sink

3. **Substantiality.** It should be noted that the project's carbon emission reduction potential is much larger than what has been estimated based on the above assumptions. There are many investments related to the reduction of FLW which are not accounted for due to the limitations of the FAO EX-ACT tool. The EX-ACT version used does not provide a detailed analysis of post-farm gate GHGs emitted or avoided along the agro-value chain through investments in (a) post-harvest handling and storage, (b) processing, and (c) distribution. While a new tool 'EX-ACT for value chains' is available for assessing environmental and socioeconomic potential of agri-food value chains, it has not been used due to limited data availability for making meaningful assumptions. Consequently, the effects of the

investments on FLW (see joint Multilateral Development Banks (MDB) Methodology, Table 5, eligibility criteria 9) will be accounted for using the qualitative approach (Interim Guidance Note on Demonstrating Substantiality). The value chain activities that have implications for GHG and their link to emissions are summarized in table A2.2.

4. **Project interventions.** This project aims to address the FLW challenge in Uganda in line with the country's plans through investments in critical public goods and rural infrastructure, which are in critical shortage and are the leading cause of FLW i.e. inappropriate handling, lack of storage facilities, and poor infrastructure, by promoting value-enhancing and market-relevant climate smart technological innovations summarized in table A2.3.

Table 2.2. Detailed Description of Value Chain Investments for Demonstrating Qualitative Substantiality

Value Chain Stage	Activity	Component	Linking to GHG Emissions
Production	The project will support development of farmer corporations and provide infrastructure and facilities that would support the efficiency of the food production process that also contributes to the reduction of FLW. These include soil testing, disease identification, and product quality assurance services and equipment.	Component 1	On-farm investments for improved production, disease identification, and quality assurance reduces the amount of produce that will spoil, thereby reducing the amount of food loss at the primary production level.
Storage	Development of storage facilities such as cold storage dairy, and fisheries, and storage facilities for crops. The selection of such equipment will be based on climate resilient and energy-saving; resource-efficient technologies; and off-grid solutions that are solar-powered.	Component 3	These investments will replace traditional storage facilities, which farmers typically use, and will contribute to reduced food loss through spoilage of milk, meat, fish, and crops at post-production, and rather lead to increased shelf life and quality of agricultural products.
Processing and value addition	Through improving public services for value chain development, the project will support improvement of quality control of processing tools and machineries, which will reduce FLW though improved processing efficiency. Specifically, the project will support the development and dissemination of reduction and/or management of agricultural waste, such as innovative solar dryers and renewable energy based storage facilities. Business skills development via technical assistance provided by private sector partners for processing and value addition.	Component 3	The existing processing infrastructure and inefficiencies inherent in them contributed to significant food loss at processing stage. By improving the efficiency of processing infrastructure through introducing new technologies, which farmers have not used before, the project will contribute to reduced food loss. The skills will enable farmers to carry out their post-harvest management, value addition and marketing more efficiently and effectively, thereby reducing food loss and spoilage.

Table 2.3. Climate Co-Benefits: Project Activities to Support Climate Adaptation and/or Mitigation

Component 1: Strengthening Climate Smart Agricultural Research, Seed, and Agro-Climatic Information Systems (US$64.6 million – IDA; US$2.3 million – WHR)			
Activities	**Financing Allocation (US$ million)**	**Adaptation Measures**	**Mitigation Measures**
1.1 Development, validation, adaptation, and dissemination of context-specific CSA TIMPs	9.8	Climate smart agriculture (CSA) research, technology adaptation and dissemination will ensure that there is a supply of CSA technologies which are appropriate to local contexts, thereby increasing access to climate change adaptation technology options to farmers.	Climate smart agriculture (CSA) research, technology adaptation will include selection both mitigation and adaptation.
1.2 Building climate smart seed systems	13.9	Improved breeding and multiplication of climate smart and resilient crop seeds, livestock breeds, and fish stocks will ensure that seeds, breeds, and stocks most adapted to current and emerging climate hazards are readily and widely available to farmers. Crop seeds will be bred and selected for water stress resilience and drought tolerance. Livestock will be bred and selected to increase heat and drought tolerance and for disease resistance. Fish stock will be selected for tolerance to unreliable water flows and feed supply.	The improved breeding and multiplication program will also seek to select for reduction of GHG emissions from livestock, which contribute the largest to agriculture emissions in the country.
1.3 Generation and timely transmission of accurate weather data and climate information	10.6	The development of targeted weather and climate information will support farmer preparedness for extreme weather and therefore timely adoption of appropriate technology and management practices to reduce the negative impacts of climate hazards, build and resilience. Targeted weather and climate information will include information about: timing of season, timing of high intensity rainfall events, likelihood of emergence of pests and diseases, in-season dry spells, etc.	Establishment of a soil organic carbon monitoring reporting and verification systems will be a first step to supporting actions to capture carbon removals from soils, and an incentive for promotion of appropriate actions for reducing GHG emissions from farms.

1.4 Capacity building for key institutions to deliver CSA technologies, innovation and management practices (TIMPs), and support development of sustainable climate smart seed delivery systems.	32.6	Research and development institutions, such as PARIs and the national extension service in the country will receive training on and equipment for dissemination of CSA TIMPs, and information. This will ensure that farmers receive the best technologies and information through climate smart agricultural extension systems to enhance adoption of climate resilient technologies Interns with knowledge and skills in climate and agriculture will be recruited to support national research institutions in CSA.	Energy efficiency will be considered for proposed upgrades in equipment and infrastructure of selected facilities under this sub-component.
Component 2: Promoting Adoption of Climate Smart Agriculture Technologies and Practices (US$172 million-IDA; US$32.5 million – WHR).			
Activities	**Financing allocation (US$ million)**	**Adaptation Measure**	**Mitigation Measures**
2.1 Incentives for the adoption of CSA TIMPs and Sustainable Land management (SLM)	178	The project will finance incentives for the construction of SLM infrastructure such as terraces, contour bunds, and water retention ditches, restoration of degraded wetlands, riverbanks and lakeshores stabilization works on communally owned land. These will reduce vulnerability of farmers to flooding, erosion and land degradation.	Investments in SLM will ensure that land degradation is reduced and improve agriculture land management to reduce agriculture and community land based GHG emissions through soil organic carbon losses.
2.2 Refugee access CSA TIMPs for their selected crops, livestock and aquaculture including irrigation kits, and agroforestry.	5	Refugees will receive grants to adopt nutrient rich and climate resilient crops cultivars and types to ensure food and nutrition security along with climate resilience of refugees. Refugees will also receive climate smart technologies such as micro-irrigation kits to reduce their dependence on unreliable rainfall and water sources.	Promotion of CSA TIMPs such as agro-forestry will have a significant contribution towards GHG emission reduction in agriculture.
2.3 Building institutional capacity for key stakeholders in CSA planning and prioritization of needs at district,	21.5	The project will develop capacity of districts and sub-counties to deliver climate-smart agricultural extension services and oversee implementation of sub-projects; it will contract non-state actors to support community mobilization and strengthening of farmer and community institutions in	Investments in CSA planning will ensure that stakeholders implement climate change mitigation and adaptation for ecosystem protection and restoration, and to manage technology uptake and promotion in a sustainable manner that will contribute towards reduction of GHG emissions.

sub-county and community levels		planning and implementation of micro-projects, including capacity strengthening on likely climate risk and impacts as well as adaptation measures.	
Component 3: Market Development and Linkages for Selected Value Chains (US$44 million – IDA; US$ 13.3 million – WHR).			
Activities	**Financing allocation (US$ million)**	**Adaptation Measure**	**Mitigation Measures**
3.1 Matching grants for clean technology across the agro-value chain	44	The construction of warehouses will reduce post-harvest losses especially during extreme weather events. The project will adopt a framework for climate resilient infrastructure mainstreaming that has design guidelines, criteria and standards, which provide climate proofed technical planning parameters for rural infrastructure. The investment in road facilities will include climate resilient road design features to reduce the impacts of intense rainfall, flooding and high temperatures. Selection criteria under matching grants will ensure incorporation of climate smart practices and technologies.	The project will finance the adoption of clean energy equipment, machinery and infrastructure along the agro-value chain, e.g. solar dryers, and small or solar powered cold storage facilities. Equipment will be powered largely through renewable or energy efficient power sources. Improved storage and packaging will help to reduce the overall contribution of agro-value chains to sectoral GHG emissions through reducing the amount of produce loss to spoilage (see section on substantiality; Annex 2 paragraph 3 and 4). Road chokes along selected routes will reduce the time spent transporting food, thereby reducing food spoilage and emissions from vehicles.
3.2 Investment in clean technology across the agro-value chain for refugees	13.3	Invest in climate resilient technologies to reduce the loss of technologies along the value chain to extreme weather events, to adapt to heat and water stresses and to promote improved water management practices e.g. rain shelters. Skills development for youth in refugee areas will include training related to climate smart agriculture.	Finance to the extent possible energy-efficient equipment (i.e., proper selection of tractor engine speed) and practices such as reducing the number of field operations by switching to reduced-till or no-till farming. Use of solar panels for renewable energy generation to power small equipment and light fixtures Selection criteria under matching grants will ensure incorporation of climate smart practices and technologies.

Annex 3. IDA20 Strategy Note on Support to Refugees and Host Communities

The Country Manager
World Bank Country Office
Kampala

IDA-20 STRATEGY NOTE ON SUPPORT TO REFUGEES AND HOST COMMUNITIES

I am writing on behalf of the Government of Uganda requesting for financial support under the World Bank's IDA-20 Window for Host Communities and Refugees (WHR). As you are aware Uganda has and continues to implement its vision of a coordinated, accountable and sustainable refugee response for socio-economic transformation for refugees and host communities by 2025. Uganda remains committed to enhancing refugee self-reliance, better meeting the needs of host communities and ensuring a robust protection environment for refugees consistent with Uganda's international commitments. Uganda has seen substantial policy, planning, and implementation of its refugee commitments over the last five years, building on the priorities announced in the 'Letter of Government Policy on Support to Refugees and Host Communities in Uganda' Ref: ALD141/259/01 of 30th August 2017 and updated for IDA19 in the 'Strategy Note on support to Refugees and Host Communities' Ref ALD141/259/01 Vol.50 of 2nd July 2020. This note updates progress against past commitments and outlines future priorities for Uganda's refugees and host community needs.

Context

Uganda's refugee numbers have significantly continued to grow amidst the unprecedented pressure in humanitarian financing and impact of COVID-19 pandemic. Despite the above, the country remains committed to deliver better services, economic opportunities and infrastructure to refugees and host communities. Uganda continues to host the largest number of refugees in Africa, with the population now standing at 1,525,197. In refugee hosting districts (RHDs), on average refugees make up approximately one-quarter of the district's population (an increase from 2017), but this varies significantly between RHDs, with 15.3 percent of the population of Kamwenge District being refugees, to 70.1 percent of the population of Obongi. Significant refugee inflows carry on, with more than 100,000 refugees arriving in the country in this year alone, placing further pressure on refugee hosting areas. The impacts of COVID-19, the war in Ukraine has further increased pressure on humanitarian partners support in Uganda, resulting in refugee humanitarian financing shortfalls and reductions in the general food rations. Climate change and environmental degradation remain a major a challenge in refugee hosting areas. These compound pressures are also placing pressure on Uganda's fiscal situation and national budget.

The Ugandan economy posted real GDP growth of 4.7 percent in FY 2019/20, an improvement over the 3.0 percent recorded in FY 2018/19 but significantly lower than the pre COVID-19 growth of 6.8 percent achieved in FY 2018/19. Whereas the economy is projected to post an improved growth of 5.3 percent in FY 2022/23, this is still below the medium term target of 7.0 percent. The above performance is mainly explained by the effects of COVID-19 pandemic and the Ukraine war. Additionally, heavy rains/floods and prolonged drought in some parts of the Country affected the economy. Despite these pressures, Uganda's Comprehensive Refugee Response Framework (CRRF) coordination, policy implementation and planning continues to strengthen. Uganda's progressive refugee policy environment provides access to jobs, social services, land, businesses and freedom of movement. This is held up as a global best practice example of implementation of the Global Compact on Refugees (GRC). Uganda's CRRF Steering Group held its 17th quarterly meeting in September 2022, ensuring strong whole of government and partner coordination to implement this progressive set of refugee policies. In April 2022, Uganda completed the

'Evaluation of the Implementation of the Global Compact on Refugees and its CRRF in Uganda' which involved extensive engagement with all stakeholders and concluded "remarkable progress in the implementation of the CRRF in Uganda…Policies and plans have been developed and promulgated, institutions established, and a wide range of stakeholders have been engaged".

The Government's forced displacement partnership with the World Bank has grown to support more integrated socio-economic development support to refugees and host communities under the CRRF. The Bank has provided $791 million of finance under the IDA18 Regional Sub-Window for Refugees and Host Communities (RSW) and the IDA19 WHR. This finance has been accompanied by important knowledge products and analysis to support Uganda's inclusive refugee policies. The RSW/WHR finance has supported twelve national projects to help build the self-reliance of refugees, improve infrastructure and provide strengthened integrated social services in RHDs in health; education; water; jobs; energy; transport; environment; and digital services.

Progress against priorities

Uganda has made substantial progress in the delivery on the refugee commitments made in 2017, reconfirmed at the Global Refugee Forum in December 2019 and updated in the IDA19 WHR Strategy Note. Uganda remains committed to improving economic opportunities, social services and infrastructure to benefit refugees and host communities. Five CRRF program response plans have been finalized and are being supported by large national projects which include refugees and host community members with World Bank financing. These plans foresee medium and long-term development investments and support the transition of humanitarian assistance into Government services in RHDs. z

There is strong progress on: the commitment to integrate refugee services into national service delivery systems. As outlined in the National Development Plan III (NDP III), refugee planning is integrated into national, sectoral and local government plans and data collection. The CRRF has developed sectoral plans for refugees and host communities and included both groups under the Uganda Intergovernmental Fiscal Transfer to support service provision through district development plans. Refugees and hosts have been included in the 2022 Uganda Demographic Health Survey. Although a refugee sample was not collected in the Uganda National Household Survey that was conducted in 2019/20 due to COVID-19 pressures, the Uganda Bureau of Statistics remains committed to include refugees in national data exercises.

On the commitments to: ensure access for refugees and host population to quality, efficient and integrated basic social services; and enhance social infrastructure in refugee hosting areas, strong progress is being made on health and education service provision. The second Education Response Plan for Refugees and Host Communities was endorsed in September 2022. Under the Uganda intergovernmental Fiscal Transfer (UgIFT) program WHR , refugee children have been included in the education capitation grant for RHDs and 51 schools are being transferred from humanitarian partners into the national education system. The Uganda Secondary Education Expansion Project (USEEP) will strengthen infrastructure in 61 secondary schools in RHDs.

According to the just concluded Health Sector Integrated Refugee Response Plan a mid-term review, under the UgIFT, 15 health centers are being transitioned from humanitarian partners into national systems and refugee populations have been included in the per capita recurrent cost allocations to RHDs. Two blood banks to service RHDs are also being constructed under UgIFT. Refugees were integrated into the National COVID-19 Health Prevention and Response Plan. The Uganda COVID 19 Response and Emergency Preparedness Project is supporting

the procurement and distribution of vaccines in RHDs as well as strengthening health infrastructure and services to meet the needs of refugees and host communities. In support of the Water and Environment Response Plan for Refugees and Host Communities, the Uganda Integrated Water Management and Development Project (IWMDP) is providing improved access to water supply and sanitation services to more than 272,000 refugees and host communities. The Government commits that it will finalise its Refugee Transition Framework agreed at the 17th CRRF Steering Group to provide greater clarity on the process and role of all stakeholders in transitioning humanitarian services into national systems.

The Government remains committed to improving economic opportunities for refugees and host communities, especially women and youth; and enhancing economic infrastructure in refugee hosting areas. The Jobs and Livelihoods Integrated Response Plan for Refugees and Host Committees was launched in April 2021 and will be supported to deliver jobs through WHR financing. The Generating Growth Opportunities and Productivity for Women Enterprises (GROW) Project will support economic opportunities for 240,000 women in RHDs and the Investment for Industrial Transformation and Employment (INVITE) will support the strengthening of 55,000 RHD firms. Under DRDIP, so far 2,819,413 refugees and host community members have been provided access to social and economic services and infrastructure through a community driven development approach. Transport infrastructure is being strengthened to provide better access to markets and foster economic growth in RHDs. Under the Uganda Support to Municipal Infrastructure Development Project (USMID) and the Development Response to Displacement Impacts Project (DRDIP), more than 1,300 kms of roads are being improved in RHDs, and the Roads and Bridges Project will strengthen the arterial of, Koboko to Moyo Road connecting the West Nile refugee hosting region with the rest of the country. Government through the INVITE and GROW projects envisages to further engage the private sector to drive the economic opportunities in RHDs The above among other interventions will accelerate Government's efforts towards jobs creation for refugees and host communities.

The Government has delivered on its commitment to strengthen natural resources management and energy access in refugee hosting areas by launching the Sustainable Energy Response Plan for Refugees and Host Communities in August 2022. This will be supported under the Uganda Electricity Access Scale-Up Project (EASP) to provide electivity to 534,000 people in RHDs. Under DRDIP, 71,574 beneficiaries in RHDs have been provided with access to improved energy sources. In support of the Water and Environment Response Plan for Refugees and Host Communities, the Investing in Forests and Protected Areas for Climate-Smart Development Project, Uganda will provide 70,000 vulnerable refugees with wood fuel to mitigate deforestation around RHDs.

Government is committed to address pressure on land for refugees and host communities in a way that is efficient and effective. The commitment to implement a shelter strategy and enhance settlement land planning has been addressed to some degree under the Settlement Transformation Agenda, which is being updated into the Settlement Transformation Agenda 2. This updated plan will focus on ensuring that refugee settlement land is managed in a way that is efficient and sustainable. However, we recognize that settlement land management is a priority under the CRRF National Plan of Action that has not been sufficient progressed. This will remain a policy priority over the next three years.

The Government also continues to be deeply committed to key refugee protection issues including: strengthening access to justice and rule of law in refugee hosting areas; sustaining the asylum space for refugees, strengthening protection and enhancing emergency assistance; and ensuring peaceful co-existence between refugees and host communities. Uganda's Refugee Act and Regulations combined with the settlement approach and CRRF provides refugees in Uganda with some of the best prospects for dignity, normality and self-reliance found anywhere in the

world. Border restrictions as part of the COVID 19 pandemic have ended and Uganda continues to be steadfast in maintaining its open border policy to refugees. Under the CRRF, the Refugee Engagement Forum has been strengthened to better support their voice, agency and ensuring accountability to affected populations. In September 2022 a District Engagement Forum was also established under the CRRF to support implementation of the CRRF at the sub-national level, and to better address issues of social cohesion and upward accountability.

IDA-20 priorities for refugees and host communities

The Government remains committed to its vision of a coordinated, accountable and sustainable refugee response for socio-economic transformation for refugees and host communities by 2025 as outlined under NDP III, the CRRF Strategic Direction and National Plan of Action and elucidated in the above commitments. We will continue integrating refugees into all levels of development planning, national statistics systems, service delivery, provision of infrastructure and strengthening human capital to build self-reliance and ensure a strong enabling environment for employment creation for refugees and host communities. Government will continue to work with the World Bank and other development and humanitarian partners to deliver the Global Compact on Refugees under Uganda's CRRF, including the pledges made at the 2019 Global Refugee Forum. As a signal of Uganda's commitment to this agenda, it will co-convene the Global Refugee Forum in December 2023.

The WHR finance is a crucial source of development financing to support implementation of Uganda's refugee policies. As the World Bank develops its next Uganda Country Partnership Framework, we will include forced displacement within this strategic dialogue to ensure it can continue the key support to the country's CRRF agenda. Whilst the Government will focus on accelerating implementation of the existing $791 million of RSW/WHR investments, key emerging priorities for IDA20 WHR include: health, education; water; climate smart agriculture; development of skills; roads; and a successor project to DRDIP. Consideration will be given to investments in transit districts and secondary cities within the preparation of some of these projects. These interventions will provide livelihoods, increase productivity and enhance cohesion amongst refugees and host communities. Moreover, sensitivity to environmental concerns, global warming, equity, gender and other social standards will be maintained.

On behalf of the Government of Uganda, I recognize the important partnership and support provided by the World Bank in realizing the country's CRRF priorities and national development agenda to strengthen integrated socio-economic opportunities for refugees and host communities under IDA20's WHR and we look forward to further collaboration in the same.

Matia Kasaija (M.P)
MINISTER OF FINANCE, PLANNING AND ECONOMIC DEVELOPMENT